

INVITATION TO TENDER

RETURN BIDS TO:

Bid Receiving / Agriculture and Agri-Food Canada

aafc.cef.procurement-provisionnement.fec.
 aac@agr.gc.ca

Attn: Daniel Lafreniere
 Solocitation #21-1094

TENDER TO:

Agriculture and Agri-Food Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the construction listed herein and on any attached sheets at the price(s) set out therefor.

Comments

ISSUING OFFICE

Agriculture and Agri-Food Canada
 Integrated Services Branch
 K.W. Neatby Building #20
 960 Carling Avenue, Ottawa, ON
 K1A 0C6

Title		
ROOF REPLACEMENT, BUILDING 18, CEF, OTTAWA		
Solicitation No.		Date
21-1094		2021-10-08
Client Reference No.		
MCE21 Bldg 18		
File No.		
21-1094		
Solicitation Closes:		
Tuesday, October 26, 2021, at 02:00 PM, EDT.		
F.O.B		
<input type="radio"/> Plant <input checked="" type="radio"/> Destination <input type="radio"/> Other		
Address Enquiries to:		
Daniel Lafreniere		
Title:		
Senior Contracts Officer		
Email:		
daniel.lafreniere@agr.gc.ca		
Telephone Number	Ext.	Fax Number
613 759-6876		
Destination		
Agriculture and Agri-Food Canada Central Experimental Farm (CEF) 960 Carling Ave. Ottawa ON K1A 0C6		

Instructions: See Herein

Delivery Required	Delivery Offered	
Vendor / Firm Name and Address		
Telephone Number	Ext.	Fax Number
Name and title of person authorized to sign on behalf of Vendor / Firm (type or print)		
Signature		Date
_____		_____

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SI01 BID DOCUMENTS

- 1) The following are the bid documents:
 - (a) INVITATION TO TENDER - Page 1 form AAFC / AAC5323-E;
 - (b) SPECIAL INSTRUCTIONS TO BIDDERS form AAFC / AAC5301-E;
 - (c) GENERAL INSTRUCTIONS TO BIDDERS form AAFC / AAC5313-E;
 - (d) Clauses and Conditions identified in "CONTRACT DOCUMENTS";
 - (e) Drawings and Specifications;
 - (f) BID AND ACCEPTANCE form AAFC / AAC5320-E and any Appendices attached thereto; and,
 - (g) Any amendment issued prior to solicitation closing.

Submission of a bid constitutes acknowledgement that the Bidder has read and agrees to be bound by these documents.

SI02 ENQUIRIES DURING THE SOLICITATION PERIOD

- 1) Enquiries regarding this bid must be submitted in writing to the Contracting Officer named on the INVITATION TO TENDER - Page 1 as early as possible within the solicitation period. Except for the approval of alternative materials as described in G113 of the GENERAL INSTRUCTIONS TO BIDDERS, enquiries should be received no later than five (5) calendar days prior to the date set for solicitation closing to allow sufficient time to provide a response. Enquiries received after that time may not result in an answer being provided.
- 2) To ensure consistency and quality of the information provided to Bidders, the Contracting Officer shall examine the content of the enquiry and shall decide whether or not to issue an amendment.
- 3) All enquiries and other communications related to this bid sent throughout the solicitation period are to be directed ONLY to the Contracting Officer named on the INVITATION TO TENDER - Page 1. Non-compliance with this requirement during the solicitation period can, for that reason alone, result in disqualification of a bid.

SI03 MANDATORY SITE VISIT

- 1) There will be a site visit on Friday, October, 15 , 2021.

SPECIAL INSTRUCTIONS TO BIDDERS (Continued)

Interested parties are required to register with the Project Authority in advance by email at michael.dicembre@agr.gc.ca

- The Project Authority will assign each bidder a specific time slot.
- The Departmental Representative will show the site to 1 contractor rep at a time (one-on-one).
- **No** questions will be answered during the site showing; all bidders' questions must be submitted to the Contracting Authority by email and will be answered by solicitation addendum following the site visit.
- Additional restrictions will include: The Bidder's representative must not have travelled internationally in the past 14 days, must not have symptoms of COVID-19, must wear a facial covering, and must respect physical distancing measures while on site.

SI04 REVISION OF BID

- 1) A bid may be revised by email in accordance with GI09 of the GENERAL INSTRUCTIONS TO BIDDERS.

SI05 BID RESULTS

- 1) Following bid closing, bid results may be obtained from the bid receiving office by email at daniel.lafreniere@agr.gc.ca

SI06 INSUFFICIENT FUNDING

- 1) In the event that the lowest compliant bid exceeds the amount of funding allocated for the Work, Canada in its sole discretion may:
 - (a) cancel the solicitation; or
 - (b) obtain additional funding and award the Contract to the Bidder submitting the lowest compliant bid; and/or
 - (c) negotiate a reduction in the bid price and/or scope of work of not more than 15% with the Bidder submitting the lowest compliant bid. Should an agreement satisfactory to Canada not be reached, Canada shall exercise option (a) or (b).

SI07 BID VALIDITY PERIOD

- 1) Canada reserves the right to seek an extension to the bid validity period prescribed in Clause 4 of the BID AND ACCEPTANCE Form. Upon notification in writing from Canada, Bidders shall have the option to either accept or reject the proposed extension.
- 2) If the extension referred to in paragraph 1) of SI07 is accepted, in writing, by all those who submitted bids, then Canada shall continue immediately with the evaluation of the bids and its approvals processes.
- 3) If the extension referred to in paragraph 1) of SI07 is not accepted in writing by all those who submitted bids then Canada shall, at its sole discretion, either:
 - (a) continue to evaluate the bids of those who have accepted the proposed extension and seek the necessary approvals; or
 - (b) cancel the invitation to bid.
- 4) The provisions expressed herein do not in any manner limit Canada's rights in law or under GI10 of the GENERAL INSTRUCTIONS TO BIDDERS.

SPECIAL INSTRUCTIONS TO BIDDERS (Continued)

SI08 CONSTRUCTION DOCUMENTS

- 1) The successful contractor will be provided with one paper copy of the sealed and signed plans, the specifications and the amendments upon acceptance of the offer. Additional copies, up to a maximum of one (1), will be provided free of charge upon request by the Contractor. Obtaining more copies shall be the responsibility of the Contractor including costs.

SI09 WEB SITES

The connection to some of the Web sites in the solicitation documents is established by the use of hyperlinks. The following is a list of the addresses of the Web sites:

Treasury Board Appendix L, Acceptable Bonding Companies

<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appL>

Canadian economic sanctions

<http://www.international.gc.ca/sanctions/index.aspx?lang=eng>

SI10 PERSONNEL SECURITY REQUIREMENTS

- 1) The successful Bidder's personnel, as well as any subcontractor and its personnel, who are required to perform any part of the work pursuant to the subsequent contract, must meet the following contract security requirements:
 - Personnel who are required to perform any part of the work must EACH hold a valid personnel security screening at the level of RELIABILITY STATUS, granted or approved by Agriculture and Agri-Food Canada. Until the security screening of the personnel has been completed satisfactorily by Agriculture and Agri-Food Canada, the Contractor/Subcontractor personnel MAY NOT perform contract work. Each of the proposed staff must complete "Security Clearance Form" (TBS 330-23E) upon request from Canada.

GENERAL INSTRUCTIONS TO BIDDERS

- GI01 Completion of Bid
- GI02 Identity or Legal Capacity of the Bidder
- GI03 Applicable Taxes
- GI04 Capital Development and Redevelopment Charges
- GI05 Registry and Pre-qualification of Floating Plant
- GI06 Listing of Subcontractors and Suppliers
- GI07 Bid Security Requirements
- GI08 Submission of Bid
- GI09 Revision of Bid
- GI10 Rejection of Bid
- GI11 Bid Costs
- GI12 Compliance with Applicable Laws
- GI13 Approval of Alternative Materials
- GI14 Conflict of Interest – Unfair Advantage
- GI15 Integrity Provisions – Bid
- GI16 Code of Conduct for Procurement – Bid

GI01 COMPLETION OF BID

- 1) The bid shall be:
 - (a) submitted on the BID AND ACCEPTANCE FORM provided by AAFC with the bid package or on a clear and legible reproduced copy of such BID AND ACCEPTANCE FORM that must be identical in content and format to the BID AND ACCEPTANCE FORM provided by AAFC;
 - (b) based on the Bid Documents listed in the Special Instructions to Bidders;
 - (c) correctly completed in all respects;
 - (d) signed, with an original signature, by a duly authorized representative of the Bidder; and
 - (e) accompanied by
 - (i) bid security as specified in GI07; and
 - (ii) any other document or documents specified elsewhere in the solicitation where it is stipulated that said documents are to accompany the bid.
- 2) Subject to paragraph 6) of GI10, any alteration to the pre-printed or pre-typed sections of the Bid and Acceptance Form, or any condition or qualification placed upon the bid shall be cause for disqualification. Alterations, corrections, changes or erasures made to statements or figures entered on the Bid and Acceptance Form by the Bidder shall be initialed by the person or persons signing the bid. Alterations, corrections, changes or erasures that are not initialed shall be deemed void and without effect.
- 3) Unless otherwise noted elsewhere in the Bid Documents, facsimile copies of bids are not acceptable.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

GI02 IDENTITY OR LEGAL CAPACITY OF THE BIDDER

- 1) In order to confirm the authority of the person or persons signing the bid or to establish the legal capacity under which the Bidder proposes to enter into Contract, any Bidder who carries on business in other than its own personal name shall, if requested by Canada, provide satisfactory proof of
 - (a) such signing authority; and
 - (b) the legal capacity under which it carries on business;

prior to contract award. Proof of signing authority may be in the form of a certified copy of a resolution naming the signatory(ies) that is (are) authorized to sign this bid on behalf of the corporation or partnership. Proof of legal capacity may be in the form of a copy of the articles of incorporation or the registration of the business name of a sole proprietor or partnership.

GI03 APPLICABLE TAXES

- 1) "Applicable Taxes" means the Goods and Services Tax (GST), the Harmonized Sales Tax (HST), and any provincial tax, by law, payable by Canada such as, the Quebec Sales Tax (QST) as of April 1, 2013.

GI04 CAPITAL DEVELOPMENT AND REDEVELOPMENT CHARGES

- 1) For the purposes of GC1.8 LAWS, PERMITS AND TAXES in the General Conditions of the Contract, only fees or charges directly related to the processing and issuing of building permits shall be included. The Bidder shall not include any monies in the bid amount for special municipal development, redevelopment or other fees or charges which a municipal authority may seek as a prerequisite to the issuance of building permits.

GI05 REGISTRY AND PRE-QUALIFICATION OF FLOATING PLANT

- 1) Dredges or other floating plant to be used in the performance of the Work must be of Canadian registry. For dredges or other floating plant that are not of Canadian make or manufacture, the Bidder must obtain a certificate of qualification from Industry Canada and this certificate must accompany the bid. Plant so qualified by Industry Canada may be accepted on this project.

GI06 LISTING OF SUBCONTRACTORS AND SUPPLIERS

- 1) Notwithstanding any list of Subcontractors that the Bidder may be required to submit as part of the bid, the Bidder shall, within 48 hours of receipt of a notice to do so, submit all information requested in the said notice including the names of Subcontractors and Suppliers for the part or parts of the Work listed. Failure to do so shall result in the disqualification of its bid.

GI07 BID SECURITY REQUIREMENTS

- 1) The Bidder shall submit bid security with the bid in the form of a bid bond or a security deposit in an amount that is equal to not less than 10 percent of the bid amount. Applicable Taxes shall not be included when calculating the amount of any bid security that may be required. The maximum amount of bid security required with any bid is \$2,000,000.00.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- 2) A bid bond shall be in an approved form <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494#appS>, properly completed, with original signature(s) and issued by an approved company whose bonds are acceptable to Canada either at the time of solicitation closing or as identified in Treasury Board Appendix L: [Acceptable Bonding Companies](#).
- 3) A security deposit shall be an original, properly completed, signed where required and be either:
 - (a) a bill of exchange, bank draft or money order made payable to the Receiver General for Canada and certified by an approved financial institution or drawn by an approved financial institution on itself; or
 - (b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada;
- 4) For the purposes of subparagraph 3) (a) of GI07
 - (a) a bill of exchange is an unconditional order in writing signed by the Bidder and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order of, the Receiver General for Canada;
 - (b) if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 4.c. of GI07, either by letter or by a stamped certification on the bill of exchange, bank draft or money; and
 - (c) An approved financial institution is:
 - (i) a corporation or institution that is a member of the Canadian Payments Association as defined in the [Canadian Payments Act](#);
 - (ii) a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the "Autorité des marchés financiers";
 - (iii) a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;
 - (iv) a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the [Income Tax Act](#); or
 - (v) Canada Post Corporation.
- 5) Bonds referred to in subparagraph 3)(b) of GI07 shall be provided on the basis of their market value current at the date of solicitation closing, and shall be:
 - (a) payable to bearer;
 - (b) accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - (c) registered as to principal or as to principal and interest in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- 6) As an alternative to a security deposit an irrevocable standby letter of credit is acceptable to Canada and the amount shall be determined in the same manner as a security deposit referred to above.
- 7) An irrevocable standby letter of credit referred to in paragraph 6) of GI07 shall
 - (a) be an arrangement, however named or described, whereby a financial institution (the "Issuer") acting at the request and on the instructions of a customer (the "Applicant") or on its own behalf,
 - (i) is to make a payment to, or to the order of, the Receiver General for Canada as the beneficiary;
 - (ii) is to accept and pay bills of exchange drawn by the Receiver General for Canada;
 - (iii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
 - (iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;
 - (b) state the face amount which may be drawn against it;
 - (c) state its expiry date;
 - (d) provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by the Departmental Representative identified in the letter of credit by his/her office;
 - (e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
 - (f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice (UCP) for Documentary Credits, 2007 Revision, ICC Publication No. 600; pursuant to the ICC UCP; a credit is irrevocable even if there is no indication to that effect; and
 - (g) be issued or confirmed, in either official language, by a financial institution which is a member of the Canadian Payments Association and is on the letterhead of the Issuer or Confirmer. The format is left to the discretion of the Issuer or Confirmer.
- 8) Bid security shall lapse or be returned as soon as practical following:
 - (a) the solicitation closing date, for those Bidders submitting non-compliant bids; and
 - (b) the administrative bid review, for those Bidders submitting compliant bids ranked fourth to last on the schedule of bids; and
 - (c) the award of contract, for those Bidders submitting the second and third ranked bids; and
 - (d) the receipt of contract security, for the successful Bidder; or
 - (e) the cancellation of the solicitation, for all Bidders.
- 9) Notwithstanding the provisions of paragraph 8) of GI07 and provided more than three compliant bids have been received, if one or more of the bids ranked third to first is withdrawn or rejected for whatever reason then Canada reserves the right to hold the security of the next highest ranked compliant bid in order to retain the bid security of at least three valid and compliant bids.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

GI08 SUBMISSION OF BID

- 1) The Bid and Acceptance Form, duly completed, and the bid security shall be enclosed and sealed in an envelope provided by the Bidder, and shall be addressed and submitted to the office designated on the INVITATION TO TENDER Form for the receipt of bids. The bid must be received on or before the date and time set for solicitation closing.
- 2) Unless otherwise specified in the Special Instructions to Bidders
 - (a) the bid shall be in Canadian currency;
 - (b) exchange rate fluctuation protection is not offered; and
 - (c) any request for exchange rate fluctuation protection shall not be considered.
- 3) Prior to submitting the bid, the Bidder shall ensure that the following information is clearly printed or typed on the face of the bid envelope:
 - (a) Solicitation Number;
 - (b) Name of Bidder;
 - (c) Return address; and
 - (d) Closing Date and Time.
- 4) Timely and correct delivery of bids is the sole responsibility of the Bidder.

GI09 REVISION OF BID

- 1) A bid submitted in accordance with these instructions may be revised by E-mail provided the revision is received at the office designated for the receipt of bids, on or before the date and time set for the closing of the solicitation. The E-mail shall be on the Bidder's letterhead or bear a signature that identifies the Bidder;
- 2) A revision to a bid that includes unit prices must clearly identify the changes(s) in the unit price(s) and the specific item(s) to which each change applies.
- 3) The E-mail submitted to confirm an earlier revision shall be clearly identified as a confirmation.
- 4) Failure to comply with any of the above provisions shall result in the rejection of the non-compliant revision(s) only. The bid shall be evaluated based on the original bid submitted and all other compliant revision(s).

GI10 REJECTION OF BID

- 1) Canada may accept any bid, whether it is the lowest or not, or may reject any or all bids.
- 2) Without limiting the generality of paragraph 1) of GI10, Canada may reject a bid if any of the following circumstances is present:
 - (a) the Bidder, or any employee or subcontractor included as part of the bid, has been

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- convicted under Section 121 ("Frauds on the government" & "Contractor subscribing to election fund"), 124 "Selling or purchasing office"), 380 ("Fraud committed against Her Majesty") or 418 ("Selling defective stores to Her Majesty") of the Criminal Code of Canada, or under paragraph 80(1)(d) ("False entry, certificate or return"), subsection 80(2) ("Fraud against Her Majesty") or Section 154.01 ("Fraud against Her Majesty") of the *Financial Administration Act*;
- (b) the Bidder's bidding privileges are suspended or are in the process of being suspended;
 - (c) the bidding privileges of any employee or subcontractor included as part of the bid are suspended or are in the process of being suspended, which suspension or pending suspension would render that employee or subcontractor ineligible to bid on the Work, or the portion of the Work the employee or subcontractor is to perform;
 - (d) the Bidder is bankrupt, or where for whatever reason, its activities are rendered inoperable for an extended period;
 - (e) evidence, satisfactory to Canada, of fraud, bribery, fraudulent misrepresentation or failure to comply with any law protecting individuals against any manner of discrimination, has been received with respect to the Bidder, any of its employees or any subcontractor included as part of its bid;
 - (f) evidence satisfactory to Canada that based on past conduct or behavior, the Bidder, a sub-contractor or a person who is to perform the Work is unsuitable or has conducted himself/herself improperly;
 - (g) with respect to current or prior transactions with Canada
 - (i) Canada has exercised, or intends to exercise, the contractual remedy of taking the work out of the contractor's hands with respect to a contract with the Bidder, any of its employees or any subcontractor included as part of its bid; or
 - (ii) Canada determines that the Bidder's performance on other contracts is sufficiently poor to jeopardize the successful completion of the requirement being bid on.
- 3) In assessing the Bidder's performance on other contracts pursuant to subparagraph 2)(g)(ii) of GI10, Canada may consider, but not be limited to, such matters as:
- (a) the quality of workmanship in performing the Work;
 - (b) the timeliness of completion of the Work;
 - (c) the overall management of the Work and its effect on the level of effort demanded of the department and its representative; and
 - (d) the completeness and effectiveness of the Contractor's safety program during the performance of the Work.
- 4) Without limiting the generality of paragraphs 1), 2) and 3) of GI10, Canada may reject any bid based on an unfavourable assessment of the:
- (a) adequacy of the bid price to permit the work to be carried out and, in the case of a bid providing prices per unit or a combination of lump sum and prices per unit, whether each such price reasonably reflects the cost of performing the part of the work to which that

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

price applies;

- (b) Bidder's ability to provide the necessary management structure, skilled personnel, experience and equipment to perform competently the work under the Contract; and
 - (c) Bidder's performance on other contracts.
- 5) Where Canada intends to reject a bid pursuant to a provision of paragraphs 1), 2), 3) or 4) of GI10, other than subparagraph 2)(g) of IT10, the contracting authority will inform the Bidder and provide the Bidder ten (10) days within which to make representations, before making a final decision on the bid rejection.
- 6) Canada may waive informalities and minor irregularities in bids received if Canada determines that the variation of the bid from the exact requirements set out in the Bid Documents can be corrected or waived without being prejudicial to other Bidders.

GI11 BID COSTS

- 1) No payment will be made for costs incurred in the preparation and submission of a bid in response to the bid solicitation. Costs associated with preparing and submitting a bid, as well as any costs incurred by the Bidder associated with the evaluation of the bid, are the sole responsibility of the Bidder.

GI12 COMPLIANCE WITH APPLICABLE LAWS

- 1) By submission of a bid, the Bidder certifies that the Bidder has the legal capacity to enter into a contract and is in possession of all valid licences, permits, registrations, certificates, declarations, filings, or other authorizations necessary to comply with all federal, provincial and municipal laws and regulations applicable to the submission of the bid and entry into any ensuing contract for the performance of the work.
- 2) For the purpose of validating the certification in paragraph 1) of GI12, a Bidder shall, if requested, provide a copy of every valid licence, permit, registration, certificate, declaration, filing or other authorization listed in the request, and shall provide such documentation within the time limit(s) set out in the said request.
- 3) Failure to comply with the requirements of paragraph 2) of GI12 shall result in disqualification of the bid.

GI13 APPROVAL OF ALTERNATIVE MATERIALS

- 1) When materials are specified by trade names or trademarks, or by manufacturers' or suppliers' names, the bid shall be based on use of the named materials. During the solicitation period, alternative materials may be considered provided full technical data is received in writing by the Contracting Officer at least 10 calendar days prior to the solicitation closing date.

GI14 CONFLICT OF INTEREST - UNFAIR ADVANTAGE

- 1) In order to protect the integrity of the procurement process, bidders are advised that Canada may reject a bid in the following circumstances:
- (a) if the Bidder, any of its subcontractors, any of their respective employees or former

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

employees was involved in any manner in the preparation of the bid solicitation or in any situation of conflict of interest or appearance of conflict of interest;

- (b) if the Bidder, any of its subcontractors, any of their respective employees or former employees had access to information related to the bid solicitation that was not available to other bidders and that would, in Canada's opinion, give or appear to give the Bidder an unfair advantage.
- 2) The experience acquired by a bidder who is providing or has provided the goods and services described in the bid solicitation (or similar goods or services) will not, in itself, be considered by Canada as conferring an unfair advantage or creating a conflict of interest. This bidder remains however subject to the criteria established above.
- 3) Where Canada intends to reject a bid under this section, the Contracting Authority will inform the Bidder and provide the Bidder an opportunity to make representations before making a final decision. Bidders who are in doubt about a particular situation should contact the Contracting Authority before bid closing. By submitting a bid, the Bidder represents that it does not consider itself to be in conflict of interest nor to have an unfair advantage. The Bidder acknowledges that it is within Canada's sole discretion to determine whether a conflict of interest, unfair advantage or an appearance of conflict of interest or unfair advantage exists.

GI15 INTEGRITY PROVISIONS - BID

- 1) Ineligibility and Suspension Policy (the "Policy"), and all related Directives, are incorporated by reference into, and form a binding part of the procurement process. The Supplier must comply with the Policy and Directives, which can be found at *Ineligibility and Suspension Policy*.
- 2) Under the Policy, charges and convictions of certain offences against a Supplier, its affiliates or first tier subcontractors, and other circumstances, will or may result in a determination by Public Works and Government Services Canada (PWGSC) that the Supplier is ineligible to enter, or is suspended from entering into a contract with Canada. The list of ineligible and suspended Suppliers is contained in PWGSC's Integrity Database. The Policy describes how enquiries can be made regarding the ineligibility or suspension of Suppliers.
- 3) In addition to all other information required in the procurement process, the Supplier must provide the following:
 - a. by the time stated in the Policy, all information required by the Policy described under the heading "Information to be Provided when Bidding, Contracting or Entering into a Real Property Agreement"; and
 - b. with its bid / quote / proposal, a complete list of all foreign criminal charges and convictions pertaining to itself, its affiliates and its proposed first tier subcontractors that, to the best of its knowledge and belief, may be similar to one of the listed offences in the Policy. The list of foreign criminal charges and convictions must be submitted using an Integrity Declaration Form, which can be found at *Declaration form for procurement*.
- 4) Subject to subsection 5, by submitting a bid / quote / proposal in response a request by AAFC, the Supplier certifies that:
 - a. it has read and understands the *Ineligibility and Suspension Policy*;
 - b. it understands that certain domestic and foreign criminal charges and convictions, and

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- other circumstances, as described in the Policy, will or may result in a determination of ineligibility or suspension under the Policy;
- c. it is aware that Canada may request additional information, certifications, and validations from the Supplier or a third party for purposes of making a determination of ineligibility or suspension;
 - d. it has provided with its bid / quote / proposal a complete list of all foreign criminal charges and convictions pertaining to itself, its affiliates and its proposed first tier subcontractors that, to the best of its knowledge and belief, may be similar to one of the listed offences in the Policy;
 - e. none of the domestic criminal offences, and other circumstances, described in the Policy that will or may result in a determination of ineligibility or suspension, apply to it, its affiliates and its proposed first tier subcontractors; and
 - f. it is not aware of a determination of ineligibility or suspension issued by PWGSC that applies to it.
- 5) Where a Supplier is unable to provide any of the certifications required by subsection 4, it must submit with its bid/ quote / proposal a completed Integrity Declaration Form, which can be found at [Declaration form for procurement](#).
- 6) Canada will declare non-responsive any bid / quote / proposal in respect of which the information requested is incomplete or inaccurate, or in respect of which the information contained in a certification or declaration is found by Canada to be false or misleading in any respect. If Canada establishes after award of the Contract that the Supplier provided a false or misleading certification or declaration, Canada may terminate the Contract for default. Pursuant to the Policy, Canada may also determine the Supplier to be ineligible for award of a contract for providing a false or misleading certification or declaration.

Ineligibility and Suspension Policy - <http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>

Declaration form for procurement - <http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>

GI16 CODE OF CONDUCT FOR PROCUREMENT - BID

- 1) The Code of Conduct for Procurement provides that Bidders must respond to bid solicitations in an honest, fair and comprehensive manner, accurately reflect their capacity to satisfy the requirements set out in the bid solicitation and resulting contract, submit bids and enter into contracts only if they will fulfill all obligations of the Contract. By submitting a bid, the Bidder is certifying that it is complying with the Code of Conduct for Procurement. Failure to comply with the Code of Conduct for Procurement may render the bid non-responsive.

MAJOR WORKS - CONTRACT DOCUMENTS

SC01 CONTRACT DOCUMENTS

- 1) The following are the contract documents:
 - (a) Contract page when signed by Canada;
 - (b) Duly completed Bid and Acceptance Form and any Appendices attached thereto;
 - (c) Drawings and Specifications;
 - (d) AAFC General Conditions form AAFC / AAC5321-E:
 - (i) GC1 General Provisions
 - (ii) GC2 Administration of the Contract
 - (iii) GC3 Execution and Control of the Work
 - (iv) GC4 Protective Measures
 - (v) GC5 Terms of Payment
 - (vi) GC6 Delays and Changes in the Work
 - (vii) GC7 Default, Suspension or Termination of Contract
 - (viii) GC8 Dispute Resolution
 - (ix) GC9 Contract Security
 - (x) GC10 Insurance
 - (e) Supplementary Conditions, if any;
 - (f) Insurance Terms form AAFC / AAC5315-E;
 - (g) Any amendment issued or any allowable bid revision received before the date and time set for solicitation closing;
 - (h) Any amendment incorporated by mutual agreement between Canada and the Contractor before acceptance of the bid; and
 - (i) Any amendment or variation of the contract documents that is made in accordance with the General Conditions.
- 2) The language of the contract documents shall be the language of the Bid and Acceptance Form submitted.

SC02 ACCEPTANCE AND CONTRACT

- 1) Upon acceptance of the Contractor's offer by Canada, a binding Contract shall be formed between Canada and the Contractor. The documents forming the Contract shall be the contract documents referred to in SC01 CONTRACT DOCUMENTS.



MAJOR WORKS – GENERAL CONDITIONS

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MAJOR WORKS GENERAL CONDITIONS FORM AAFC 5321:

Revision Date

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GC3	EXECUTION AND CONTROL OF THE WORK	2016-01-01
GC4	PROTECTIVE MEASURES	Original
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GC6	DELAYS AND CHANGES IN THE WORK	Original
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GC8	DISPUTE RESOLUTION	2016-05-01
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GC1 GENERAL PROVISIONS

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 - GC1.1.1 Headings and References
 - GC1.1.2 Terminology
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- GC1.19 INTERNATIONAL SANCTIONS
- GC1.20 INTEGRITY PROVISIONS – CONTRACT
- GC1.21 CODE OF CONDUCT FOR PROCUREMENT - CONTRACT

GC1.1 (2016-05-01) INTERPRETATION

GC1.1.1 Headings and References

- 1) The headings in the contract documents, other than those in the drawings and specifications, form no part of the Contract but are inserted for convenience of reference only.
- 2) A reference made to a part of the Contract by means of numbers preceded by letters is a reference to the particular part of the Contract that is identified by that combination of letters and numbers and to any other part of the Contract referred to therein.
- 3) A reference to a paragraph or subparagraph followed by an identifying number, letter or combination thereof is, unless specifically stated otherwise, a reference to the paragraph or subparagraph that forms part of the clause within which the reference is made.

GC1.1.2 Terminology

In the Contract, unless the context otherwise requires:

“Administrative Agreement”

is a negotiated agreement with the Minister of AAFC as provided for in the Ineligibility and Suspension Policy.

“Affiliate”

is a person, including, but not limited to, organizations, bodies corporate, societies, companies, firms, partnerships, associations of persons, parent companies or subsidiaries, whether partly or wholly-owned, as well as individuals, directors, officers and key employees if:

- (i) one controls or has the power to control the other, or
- (ii) a third party has the power to control both.

"Applicable Taxes"

means the Goods and Services Tax (GST), the Harmonized Sales Tax (HST), and any provincial tax, by law, payable by Canada such as, the Quebec Sales Tax (QST) as of April 1, 2013;

"Canada", "Crown", "Her Majesty"

means Her Majesty the Queen in right of Canada;

"Contract"

means the contract documents referred to as such therein and every other document specified or referred to in any of them as forming part of the Contract, all as amended by agreement of the parties;

"Contract Amount"

means the amount set out in the Contract to be payable to the Contractor for the Work, subject to the terms and conditions of the Contract, exclusive of Applicable Taxes;

"Contract Security"

means any security given by the Contractor to Canada in accordance with the Contract;

"Contractor"

means the person contracting with Canada to provide or furnish all labour, Material and Plant for the execution of the Work under the Contract, and includes the Contractor's superintendent as designated in writing to Canada.

"Certificate of Completion"

means a certificate issued by Canada when the Work reaches Completion;

"Certificate of Measurement"

means a certificate issued by Canada certifying the correctness of the final quantities, prices per unit and values of labour, Plant and Material performed, used and supplied by the Contractor for the construction of the part of the Work to which a Unit Price Arrangement applies;

"Certificate of Substantial Performance"

means a certificate issued by Canada when the Work reaches Substantial Performance;

“Control”

means:

- a) direct control, such as where:
 - (i) a person controls a body corporate if securities of the body corporate to which are attached more than 50 percent of the votes that may be cast to elect directors of the body corporate are beneficially owned by the person and the votes attached to those securities are sufficient, if exercised, to elect a majority of the directors of the body corporate;

- (ii) a person controls a corporation that is organized on a cooperative basis if the person and all of the entities controlled by the person have the right to exercise more than 50 percent of the votes that may be cast at an annual meeting or to elect the majority of the directors of the corporation;
 - (iii) a person controls an unincorporated entity, other than a limited partnership, if more than 50 percent of the ownership interests, however designated, into which the entity is divided are beneficially owned by that person and the person is able to direct the business and affairs of the entity;
 - (iv) the general partner of a limited partnership controls the limited partnership; and
 - (v) a person controls an entity if the person has any direct or indirect influence that, if exercised, would result in control in fact of the entity.
- b) deemed control, such as where:
a person who controls an entity is deemed to control any entity that is controlled, or deemed to be controlled, by the entity
- c) indirect control, such as where:
a person is deemed to control, within the meaning of paragraph (a) or (b), an entity where the aggregate of:
- (i) any securities of the entity that are beneficially owned by that person, and
 - (ii) any securities of the entity that are beneficially owned by any entity controlled by that person

is such that, if that person and all of the entities referred to in paragraph (c)(ii) that beneficially own securities of the entity were one person, that person would control the entity.

"Departmental Representative"

means the person designated in the Contract, or by written notice to the Contractor, to act as the Departmental Representative for the purposes of the Contract, and includes a person, designated and authorized in writing by the Departmental Representative to the Contractor;

"herein", "hereby", "hereof", "hereunder"

and similar expressions refer to the Contract as a whole and not to any particular section or part thereof;

"Ineligibility"

means a person not eligible to contract with Canada;

"Lump Sum Arrangement"

means that part of the Contract that prescribes a lump sum as payment for performance of the Work to which it relates;

"Material"

includes all commodities, articles, machinery, equipment, fixtures and things required to be furnished in accordance with the Contract for incorporation into the Work;

"person"

also includes, unless there is an express stipulation in the Contract to the contrary, any partnership, proprietorship, firm, joint venture, consortium or corporation;

"Plant"

includes all tools, implements, machinery, vehicles, structures, equipment, articles and things that are necessary for the performance of the Contract, other than Material and those tools customarily provided by a tradesperson in practicing a trade;

"Subcontractor"

means a person having a direct contract with the Contractor, subject to GC3.6

"Subcontracting", to perform a part or parts of the Work, or to supply Material customized for the Work;

"Superintendent"

means the employee or representative of the Contractor designated by the Contractor to act pursuant to GC2.6, "Superintendent";

"Supplementary Conditions"

means the part of the Contract that amends or supplements the General Conditions;

"Supplier"

means a person having a direct contract with the Contractor to supply Plant or Material not customized for the Work;

"Suspension"

means a determination of temporary ineligibility by the Minister of AAFC;

"Total Estimated Cost", "Revised Estimated Cost", "Increase (Decrease)"

on Page 1 of the Contract or Contract Amendment means an amount used for internal administrative purposes only that comprises the Contract Amount, or the revised Contract Amount, or the amount that would increase or decrease the Contract Amount and the Applicable Taxes as evaluated by the Contracting Authority, and does not constitute tax advice on the part of Canada;

"Unit Price Arrangement"

means that part of the Contract that prescribes the product of a price per unit of measurement multiplied by a number of units of measurement for performance of the Work to which it relates;

"Unit Price Table"

means the table of prices per unit set out in the Contract;

"Work"

means, subject only to any express stipulation in the Contract to the contrary, everything that is necessary to be done, furnished or delivered by the Contractor to perform the Contract in accordance with the contract documents; and

"Working Day"

means a day other than a Saturday, Sunday, or a statutory holiday that is observed by the construction industry in the area of the place of the Work.

GC1.1.3 Application of Certain Provisions

- 1) Any provisions of the Contract that are expressly stipulated to be applicable only to a Unit Price Arrangement are not applicable to any part of the Work to which a Lump Sum Arrangement applies.
- 2) Any provisions of the Contract that are expressly stipulated to be applicable only to a Lump Sum Arrangement are not applicable to any part of the Work to which a Unit Price Arrangement applies.

GC1.1.4 Substantial Performance

- 1) The Work shall be considered to have reached Substantial Performance when
 - a) the Work or a substantial part thereof has passed inspection and testing and is, in the opinion of Canada, ready for use by Canada or is being used for the intended purposes; and
 - b) the Work is, in the opinion of Canada, capable of completion or correction at a cost of not more than
 - (i) 3 percent of the first \$500,000;
 - (ii) 2 percent of the next \$500,000; and
 - (iii) 1 percent of the balanceof the Contract Amount at the time this cost is calculated.
- 2) Where the Work or a substantial part thereof is ready for use or is being used for the purposes intended and
 - a. the remainder of the Work or a part thereof cannot be completed by the time specified in the Contract, or as amended in accordance with GC6.5, "Delays and Extension of Time", for reasons beyond the control of the Contractor; or
 - b. Canada and the Contractor agree not to complete a part of the Work within the specified time;

the cost of that part of the Work that was either beyond the control of the Contractor to complete or Canada and the Contractor have agreed not to complete by the time specified, shall be deducted from the value of the Contract referred to in subparagraph 1)(b) of GC1.1.4 and the said cost shall not form part of the cost of the Work remaining to be done in determining Substantial Performance.

GC1.1.5 Completion

The Work shall be deemed to have reached Completion when all labour, Plant and Material required have been performed, used or supplied, and the Contractor has complied with the Contract and all orders and directions made pursuant thereto, all to the satisfaction of Canada.

GC1.2 (2016-05-01) CONTRACT DOCUMENTS

The following discusses contract documents

GC1.2.1 General

- 1) The contract documents are complementary, and what is required by any one shall be as binding as if required by all.

- 2) References in the contract documents to the singular shall be considered to include the plural as the context requires.
- 3) Nothing contained in the contract documents shall create a contractual relationship between Canada and any Subcontractor or Supplier, their subcontractors or suppliers, or their agents or employees.

GC1.2.2 Order of Precedence

- 1) In the event of any discrepancy or conflict in the contents of the following documents, such documents shall take precedence and govern in the following order:
 - a) any amendment or variation of the contract documents that is made in accordance with the General Conditions;
 - b) any amendment issued prior to tender closing;
 - c) Supplementary Conditions;
 - d) General Conditions;
 - e) the duly completed Bid and Acceptance Form when accepted;
 - f) drawings and specifications.

later dates shall govern within each of the above categories of documents.

- 2) In the event of any discrepancy or conflict in the information contained in the drawings and specifications, the following rules shall apply:
 - a) specifications shall govern over drawings;
 - b) dimensions shown in figures on a drawings shall govern where they differ from dimensions scaled from the same drawings; and
 - c) drawings of larger scale govern over those of smaller scale.

GC1.2.3 Security and Protection of Documents and Work

- 1) The Contractor shall guard and protect contract documents, drawings, information, models and copies thereof, whether supplied by Canada or the Contractor, against loss or damage from any cause.
- 2) The Contractor shall keep confidential all information provided to the Contractor by or on behalf of Canada in connection with the Work, and all information developed by the Contractor as part of the Work, and shall not disclose any such information to any person without the written permission of Canada, except that the Contractor may disclose to a subcontractor, authorized in accordance with the Contract, information necessary to the performance of a subcontract. This section does not apply to any information that
 - a) is publicly available from a source other than the Contractor; or

- b) is or becomes known to the Contractor from a source other than Canada, except any source that is known to the Contractor to be under an obligation to Canada not to disclose the **information**.
- 3) When the Contract, the Work, or any information referred to in paragraph 2) is identified as top secret, secret, confidential, or protected by Canada, the Contractor shall, at all times, take all measures reasonably necessary for the safeguarding of the material so identified, including such measures as may be further specified elsewhere in the Contract or provided, in writing, from time to time by Canada.
- 4) Without limiting the generality of paragraphs 2) and 3) of GC1.2.3, when the Contract, the Work, or any information referred to in paragraph 2) is identified as top secret, secret, confidential, or protected by Canada, Canada shall be entitled to inspect the Contractor's premises and the premises of its subcontractors or suppliers and any other person at any tier, for security purposes at any time during the term of the Contract, and the Contractor shall comply with, and ensure that any such subcontractors or suppliers comply with all written instructions issued by Canada dealing with the material so identified, including any requirement that employees of the Contractor and its subcontractors and suppliers and any other person at any tier execute and deliver declarations relating to reliability screenings, security clearances and other procedures.
- 5) The Contractor shall safeguard the Work and the Contract, the specifications, drawings and any other information provided by Canada to the Contractor, and shall be liable to Canada for any loss or damage from any causes.

GC1.3 STATUS OF THE CONTRACTOR

- 1) The Contractor is engaged under the Contract as an independent contractor.
- 2) The Contractor, its subcontractors and suppliers and any other person at any tier and their employees are not engaged by the Contract as employees, servants or agents of Canada.
- 3) For the purposes of the contract the Contractor shall be solely responsible for any and all payments and deductions required to be made by law including those required for Canada or Quebec Pension Plans, Employment Insurance, Worker's Compensation, provincial health or insurance plans, and Income Tax.

GC1.4 (2016-05-01) RIGHTS AND REMEDIES

- 1) Except as expressly provided in the Contract, the duties and obligations imposed by the Contract and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

GC1.5 (2016-05-01) TIME OF THE ESSENCE

- 1) Time is of the essence of the Contract.

GC1.6 INDEMNIFICATION BY THE CONTRACTOR

- 1) The Contractor shall pay all royalties and patent fees required for the performance of the Contract and, at the Contractor's expense, shall defend all claims, actions or proceedings

against Canada charging or claiming that the Work or any part thereof provided or furnished by the Contractor to Canada infringes any patent, industrial design, copyright trademark, trade secret or other proprietary right enforceable in Canada.

- 2) The Contractor shall indemnify and save Canada harmless from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings by any third party, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by, or attributable to the activities of the Contractor, its subcontractors and suppliers and any other person at any tier, in performing the Work.
- 3) For the purposes of paragraph 2) of GC1.6, "activities" means any act improperly carried out, any omission to carry out an act and any delay in carrying out an act.

GC1.7 (2016-05-01) INDEMNIFICATION BY CANADA

- 1) Subject to the [Crown Liability and Proceedings Act](#), the [Patent Act](#), and any other law that affects Canada's rights, powers, privileges or obligations, Canada shall indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damage, actions, suits or proceedings arising out of the Contractor's activities under the Contract that are directly attributable to
 - a) a lack of or a defect in Canada's title to the Work site if owned by Canada, whether real or alleged; or
 - b) an infringement or an alleged infringement by the Contractor of any patent of invention or any other kind of intellectual property occurring while the Contractor was performing any act for the purposes of the Contract employing a model, plan or design or any other thing related to the Work that was supplied by Canada to the Contractor.

GC1.8 (2016-05-01) LAWS, PERMITS AND TAXES

- 1) The Contractor shall comply with all federal, provincial and municipal laws and regulations applicable to the performance of the Work or any part thereof including, without limitation, all laws concerning health and the protection of the environment, and shall require compliance therewith by all of its subcontractors and suppliers at any tier as if the Work were being performed for an owner other than Canada. The Contractor shall furnish evidence of compliance with such laws and regulations to Canada at such times as Canada may reasonably request.
- 2) Unless stipulated otherwise in the Contract, the Contractor shall obtain and maintain all permits, certificates, licences, registrations and authorizations required for the lawful performance of the Work.
- 3) Prior to the commencement of the Work at the site, the Contractor shall tender to a municipal authority an amount equal to all fees and charges that would be lawfully payable to that municipal authority in respect of building permits as if the Work were being performed for an owner other than Canada.
- 4) Within 10 days of making a tender pursuant to paragraph 3) of GC1.8, the Contractor shall notify Canada of the amount properly tendered and whether or not the municipal authority has accepted that amount.

- 5) If the municipal authority has not accepted the amount tendered, the Contractor shall pay that amount to Canada within 6 days after the time stipulated in paragraph 4) of GC1.8.
- 6) For the purposes of this clause, "municipal authority" means any authority that would have jurisdiction respecting permission to perform the Work if the owner were not Canada.
- 7) Notwithstanding the residency of the Contractor, the Contractor shall pay any applicable tax arising from or related to the performance of the Work under the Contract.
- 8) In accordance with the Statutory Declaration referred to in paragraph 4) of GC5.5, "Substantial Performance of the Work", a Contractor who has neither residence nor place of business in the province or territory in which work under the Contract is being performed shall provide Canada with proof of registration with the provincial sales tax authorities in the said province.
- 9) For the purpose of the payment of any Applicable Taxes or the furnishing of security for the payment of any Applicable Taxes arising from or related to the performance of the Work, and notwithstanding the provision that all Material, Plant and interest of the Contractor in all real property, licences, powers and privileges, become the property of Canada after the time of purchase in accordance with GC3.10, "Material Plant and Real Property Become Property of Canada", the Contractor shall be liable, as a user or consumer, for the payment or for the furnishing of security for the payment of any Applicable Taxes payable, at the time of the use or consumption of that Material, Plant or interest of the Contractor in accordance with the relevant legislation.
- 10) Federal government departments and agencies are required to pay Applicable Taxes.
- 11) Applicable Taxes will be paid by Canada as provided in the request for payment. It is the sole responsibility of the Contractor to charge Applicable Taxes at the correct rate in accordance with applicable legislation. The Contractor agrees to remit to appropriate tax authorities any amounts of Applicable Taxes paid or due.
- 12) The Contractor is not entitled to use Canada's exemptions from any tax, such as provincial sales taxes, unless otherwise specified by law. The Contractor must pay applicable provincial sales tax, ancillary taxes, and any commodity tax, on taxable goods or services used or consumed in the performance of the Contract (in accordance with applicable legislation), including for material incorporated into real property.
- 13) In those cases where Applicable Taxes, customs duties, and excise taxes are included in the Contract Amount, the Contract Amount will be adjusted to reflect any increase, or decrease, of Applicable Taxes, customs duties, and excise taxes that will have occurred between bid submission and contract award. However, there will be no adjustment for any change to increase the Contract Amount if public notice of the change was given before bid submission date in sufficient detail to have permitted the Contractor to calculate the effect of the change.
- 14) Tax Withholding of 15 Percent – Canada Revenue Agency
Pursuant to the [Income Tax Act](#), 1985, c. 1 (5th Supp.) and the [Income Tax Regulations](#), Canada must withhold 15 percent of the amount to be paid to the Contractor in respect of services provided in Canada if the Contractor is not a resident of Canada, unless the Contractor obtains a valid waiver from the Canada Revenue Agency. The amount withheld will be held on account for the Contractor in respect to any tax liability which may be owed to Canada.

GC1.9 WORKERS' COMPENSATION

- 1) Prior to commencement of Work, at the time of Substantial Performance of the Work, and prior to issuance of the Certificate of Completion, the Contractor shall provide evidence of compliance with workers' compensation legislation applicable to the place of the Work, including payments due thereunder.
- 2) At any time during the term of the Contract, when requested by Canada, the Contractor shall provide such evidence of compliance by the Contractor, its subcontractors and any other person at any tier and any other person performing part of the Work who is required to comply with such legislation.

GC1.10 NATIONAL SECURITY

- 1) If Canada determines that the Work is of a class or kind that involves national security, Canada may order the Contractor to
 - (a) provide Canada with any information concerning persons employed or to be employed by the Contractor for purposes of the Contract; and
 - (b) remove any person from the site of the Work if, in the opinion of Canada, that person may be a risk to the national security;and the Contractor shall comply with the order.
- 2) In all contracts with persons who are to be employed in the performance of the Contract, the Contractor shall make provision for the performance of any obligation that may be imposed upon the Contractor under paragraph 1) of GC1.10.

GC1.11 (2016-05-01) UNSUITABLE WORKERS

- 1) Canada shall instruct the Contractor to remove from the site of the Work any person employed by the Contractor for purposes of the Contract who, in the opinion of Canada, is incompetent or is guilty of improper conduct, and the Contractor shall not permit a person who has been removed to return to the site of the Work.

GC1.12 PUBLIC CEREMONIES AND SIGNS

- 1) The Contractor shall not permit any public ceremony in connection with the Work without the prior consent of Canada.
- 2) The Contractor shall not erect nor permit the erection of any sign or advertising on the Work or its site without the prior consent of Canada.

GC1.13 (2016-05-01) CONFLICT OF INTEREST

- 1) It is a term of the Contract that no individual, for whom the post-employment provisions of the Conflict of Interest and Post-Employment Code for Public Office Holders or the Values and Ethics Code for the Public Service apply, shall derive a direct benefit from the Contract unless that individual is in compliance with the applicable post-employment provisions.

GC1.14 AGREEMENTS AND AMENDMENTS

- 1) The Contract constitutes the entire and sole agreement between the parties with respect to the subject matter of the Contract and supersedes all previous negotiations, communications and other agreements, whether written or oral, relating to it, unless they are incorporated by reference in the Contract. There are no terms, covenants, representations, statements or conditions binding on the parties other than those contained in the Contract.
- 2) The failure of either party at any time to require performance by the other party of any provision hereof shall not affect the right thereafter to enforce such provision. Nor shall the waiver by either party of any breach of any covenant, term or condition hereof be taken to be held to be a waiver of any further breach of the same covenant, term or condition.
- 3) The Contract may be amended only as provided for in the Contract.

GC1.15 (2016-05-01) SUCCESSION

- 1) The Contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and, subject to GC1.16, "Assignment", permitted assigns.

GC1.16 (2016-05-01) ASSIGNMENT

- 1) The Contractor shall not make any assignment of the Contract, either in whole or in part, without the written consent of Canada.

GC1.17 (2016-05-01) NO BRIBE

- 1) The Contractor represents and covenants that no bribe, gift, benefit, nor other inducement has been nor shall be paid, given, promised or offered directly or indirectly to any official or employee of Canada or to a member of the family of such a person, with a view to influencing the entry into the Contract or the administration of the Contract.

GC1.18 CERTIFICATION - CONTINGENCY FEES

- 1) In this clause
 - (a) "contingency fee" means any payment or other compensation that is contingent upon or is calculated upon the basis of a degree of success in soliciting or obtaining a Government contract or negotiating the whole or any part of its terms;
 - (b) "employee" means a person with whom the Contractor has an employer/employee relationship; and
 - (c) "person" includes an individual or a group of individuals, a corporation, a partnership, an organization and an association and, without restricting the generality of the foregoing, includes any individual who is required to file a return with the registrar pursuant to section 5 of the [Lobbying Act](#) R.S.C. 1985 c.44 (4th Supplement) as the same may be amended from time to time.
- 2) The Contractor certifies that it has not directly or indirectly paid nor agreed to pay and covenants that it shall not directly or indirectly pay nor agree to pay a contingency fee for the solicitation, negotiation or obtaining of the Contract to any person other than an employee acting in the normal course of the employee's duties.

- 3) All accounts and records pertaining to payments of fees or other compensation for the solicitation, obtaining or negotiation of the Contract shall be subject to the accounts and audit provisions of the Contract.
- 4) If the Contractor certifies falsely under this section or is in default of the obligations contained therein, Canada may either take the Work out of the Contractor's hands in accordance with the provisions of the Contract or recover from the Contractor by way of reduction to the Contract Amount or otherwise, the full amount of the contingency fee.

GC1.19 INTERNATIONAL SANCTIONS

- 1) Persons and companies in Canada, and Canadians outside of Canada are bound by economic sanctions imposed by Canada. As a result, the Government of Canada cannot accept delivery of goods or services that originate, either directly or indirectly, from the countries or persons subject to **economic sanctions** (<http://www.international.gc.ca/sanctions/index.aspx?lang=eng>)
- 2) It is a condition of the Contract that the Contractor not supply to the Government of Canada any goods or services which are subject to economic sanctions.
- 3) By law, the Contractor must comply with changes to the regulations imposed during the life of the Contract. During the performance of the Contract should the imposition of sanctions against a country or person or the addition of a good or service to the list of sanctioned goods or services cause an impossibility of performance for the Contractor, the Contractor may request that the Contract be terminated in accordance with GC7.3 TERMINATION OF CONTRACT.

GC1.20 (2016-05-01) INTEGRITY PROVISIONS – CONTRACT

- 1) The Ineligibility and Suspension Policy (the "Policy") and all related Directives are incorporated into, and form a binding part of the Contract. The Contractor must comply with the provisions of the Policy and Directives, which can be found on Public Works and Government Services Canada's website at Ineligibility and Suspension Policy. (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>).

GC1.21 (2016-05-01) CODE OF CONDUCT FOR PROCUREMENT - CONTRACT

- 1) The Contractor agrees to comply with the Code of Conduct (<http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>) for Procurement and to be bound by its terms for the period of the Contract.

GC2 ADMINISTRATION OF THE CONTRACT

- GC2.1 DEPARTMENTAL REPRESENTATIVE'S AUTHORITY
- GC2.2 INTERPRETATION OF CONTRACT
- GC2.3 NOTICES
- GC2.4 SITE MEETINGS
- GC2.5 REVIEW AND INSPECTION OF WORK
- GC2.6 SUPERINTENDENT
- GC2.7 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR
- GC2.8 ACCOUNTS AND AUDITS

GC2.1 (2016-05-01) DEPARTMENTAL REPRESENTATIVE'S AUTHORITY

"Technical Authority" shall be recognized as the Departmental representative and designated at time of award of contract and shall perform the following:

- a) **is responsible for all matters concerning the technical content of the work under the contract;**
- b) **authorized to issue notices, instructions, and changes within the scope of the Work, relevant to the contract.**
- c) **accept on behalf of Canada any notice, order or other communication from the contractor relating to the Work**
- d) **within a reasonable time, review and respond to submissions made by the Contractor in accordance with the requirements of the Contract**

The technical authority has no authority to authorize changes to the Contract terms and conditions of the Contract.

"Contracting Authority" shall be recognized as the authority delegated by the Minister of AAFC to enter into contracts, amend the contracts and is responsible for all matters concerning and interpretation of the terms and conditions of the Contract.

The contracting authority is responsible for the management of the Contract and any changes to the Contract terms **and conditions must be authorized in writing by the Contracting Authority.**

GC2.2 INTERPRETATION OF CONTRACT

- 1) If, at any time before Canada has issued a Certificate of Completion, any question arises between the parties about whether anything has been done as required by the Contract or about what the Contractor is required by the Contract to do, and in particular but without limiting the generality of the foregoing, about
 - (a) the meaning of anything in the drawings and specifications;
 - (b) the meaning to be given to the drawings and specifications in case of any error therein, omission therefrom, or obscurity or discrepancy in their wording or intention;

- (c) whether or not the quality or quantity of any Material or workmanship supplied or proposed to be supplied by the Contractor meets the requirements of the Contract;
- (d) whether or not the labour, Plant or Material performed, used and supplied by the Contractor for performing the Work and carrying out the Contract are adequate to ensure that the Work shall be performed in accordance with the Contract and that the Contract shall be carried out in accordance with its terms;
- (e) what quantity of any of the Work has been completed by the Contractor; or
- (f) the timing and scheduling of the various phases of the performance of the Work as specified in the Contract;

the question shall be decided, subject to the provisions of GC8 DISPUTE RESOLUTION, by Canada.

- 2) The Contractor shall perform the Work in accordance with any decisions of Canada that are made under paragraph 1) of GC2.2 and in accordance with any consequential directions given by Canada.
- 3) If the Contractor fails to comply with any instruction or direction issued by Canada pursuant to the Contract, Canada may employ such methods as Canada deems advisable to do what the Contractor failed to do, and the Contractor shall, on demand, pay Canada an amount that is equal to the aggregate of all costs, expenses and damages incurred or sustained by Canada by reason of the Contractor's failure to comply with such instruction or direction, including the cost of any methods employed by Canada in doing what the Contractor failed to do.

GC2.3 NOTICES

- 1) Subject to paragraph 3) of GC2.3, any notice, order or other communication may be given in any manner, and if required to be in writing, shall be addressed to the party to whom it is intended at the address in the Contract or at the last address of which the sender has received written notice in accordance with this section.
- 2) Any notice, order or other communication given in writing in accordance with paragraph 1) of GC2.3 shall be deemed to have been received by either party
 - (a) if delivered personally, on the day that it was delivered;
 - (b) if forwarded by mail, on the earlier of the day it was received or the sixth day after it was mailed; and
 - (c) if forwarded by facsimile or electronic mail, 24 hours after it was transmitted.
- 3) A notice given under GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS, GC7.2 SUSPENSION OF WORK, and GC7.3 TERMINATION OF CONTRACT shall be given in writing and, if delivered personally, shall be delivered, if the Contractor is a sole proprietor, to the Contractor or, if the Contractor is a partnership or corporation, to an officer thereof.

GC2.4 (2016-05-01) SITE MEETINGS

- 1) In consultation with Canada, the Contractor shall arrange site meetings at regular intervals, with all involved parties who are to attend, in order to ensure, among other things, the proper co-ordination of the Work.

GC2.5 REVIEW AND INSPECTION OF WORK

- 1) Canada shall review the Work to determine if it is proceeding in conformity with the Contract and to record the necessary data to make an assessment of the value of Work completed. Canada shall measure and record the quantities of labour, Plant and Material performed, used or supplied by the Contractor in performing the Work or any part thereof that is subject to a Unit Price Arrangement and, on request, shall inform the Contractor of those measurements, and permit the Contractor to inspect any records pertaining thereto.
- 2) Canada shall reject Work or Material which in Canada's opinion does not conform to the requirements of the Contract, and shall require inspection or testing of Work, whether or not such Work is fabricated, installed, or completed. If such Work is not in accordance with the requirements of the Contract, the Contractor shall correct the Work and shall pay Canada, on demand, all reasonable costs and expenses that were incurred by Canada in having the examination performed.
- 3) The Contractor shall provide Canada with access to the Work and its site at all times, and at all times shall provide sufficient, safe, and proper facilities for the review and inspection of the Work by persons authorized by Canada and any representatives of those authorities having jurisdiction. If parts of the Work are in preparation at locations other than the site of the Work, Canada shall be given access to such Work whenever it is in progress.
- 4) The Contractor shall furnish Canada with such information respecting the performance of the Contract as Canada may require, and render every possible assistance to enable Canada to verify that the Work is performed in accordance with the Contract, carry out any other duties and exercise any powers in accordance with the Contract.
- 5) If Work is designated for tests, inspections, or approvals in the Contract or by Canada's instructions, or by laws or ordinances of the place of the Work, the Contractor shall give Canada reasonable notice of when such Work shall be ready for review and inspection. The Contractor shall arrange for and shall give Canada reasonable notice of the date and time of inspections, tests or approvals.
- 6) If the Contractor covers, or permits to be covered, Work that has been designated for tests, inspections or approvals before such tests, inspections or approvals are made, completed or given, the Contractor shall, if so directed by Canada, uncover such Work, have the inspections, tests or approvals satisfactorily made, completed or given and make good the covering of the Work at the Contractor's expense.

GC2.6 SUPERINTENDENT

- 1) Prior to commencing the Work, the Contractor shall designate a Superintendent and shall notify Canada of the name, address and telephone number of the Superintendent. The Contractor shall keep the Superintendent at the Work site during working hours until the Work has reached completion.
- 2) The Superintendent shall be in full charge of the operations of the Contractor during the performance of the Work and shall be authorized to accept on behalf of the Contractor any notice, order or other communication given to the Superintendent or the Contractor relating to the Work.

- 3) Upon request of Canada, the Contractor shall remove any Superintendent who, in the opinion of Canada, is incompetent or has been guilty of improper conduct, and shall forthwith designate another Superintendent who is acceptable to Canada.
- 4) The Contractor shall not substitute a Superintendent without the written consent of Canada. If a Superintendent is substituted without such consent, Canada shall be entitled to refuse to issue any documentation or certification relating to progress payments, Substantial Performance or Completion of the Work until the Superintendent has returned to the Work site or another Superintendent who is acceptable to Canada has been substituted.

GC2.7 (2016-05-01) NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR

- 1) For the purposes of this clause, "persons" include the Contractor, its subcontractors and suppliers at any tier and their respective employees, agents, licensees or invitees and any other individual involved in the performance of the Work or granted access to the Work site. A "person" includes any partnership, proprietorship, firm, joint venture, consortium and corporation.
- 2) Without restricting the provisions of paragraph 3) of GC2.6, "Superintendent", the Contractor shall not refuse to employ and shall not discriminate in any manner against any person because
 - a) of that person's race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status;
 - b) of the race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status of any person having a relationship or association with that person, or
 - c) a complaint has been made or information has been given in respect of that person relating to an alleged failure by the Contractor to comply with subparagraph (a) or (b).
- 3) Within two working days immediately following receipt of a written complaint pursuant to paragraph 2) of GC2.7, the Contractor shall
 - a) cause to have issued a written direction to the person or persons named by the complainant to cease all actions that form the basis of the complaint;
 - b) forward a copy of the complaint to Canada by registered mail or courier service.
- 4) Within 24 hours immediately following receipt of a direction from Canada to do so, the Contractor shall cause to have removed from the site of the Work and from the performance of Work under the Contract, any person or persons whom Canada believes to be in breach of the provisions of paragraph 2) of GC2.7.
- 5) No later than 30 days after receipt of the direction referred to in paragraph 4) of GC2.7, the Contractor shall cause the necessary action to be commenced to remedy the breach described in the direction.
- 6) If a direction is issued pursuant to paragraph 4) of GC2.7, Canada may withhold from monies that are due and payable to the Contractor or setoff pursuant to GC5.9, "Right of Setoff", whichever is applicable, an amount representing the sum of the costs and payment referred to in paragraph 8) of GC2.7.

- 7) If the Contractor fails to proceed in accordance with paragraph 5) of GC2.7, Canada shall take the necessary action to have the breach remedied, and shall determine all supplementary costs incurred by Canada as a result.
- 8) Canada may make a payment directly to the complainant from monies that are due and payable to the Contractor upon receipt from the complainant of
 - a) a written award issued pursuant to the federal **Commercial Arbitration Act**, R.S. 1985, c. 17 (2nd Supp.);
 - b) a written award issued pursuant to the **Canadian Human Rights Act**, R.S. 1985, c. H-6;
 - c) a written award issued pursuant to provincial or territorial human rights legislation; or
 - d) a judgement issued by a court of competent jurisdiction.
- 9) If Canada is of the opinion that the Contractor has breached any of the provisions of this clause, Canada may take the Work out of the Contractor's hands pursuant to GC7.1, "Taking the Work out of the Contractor's Hands".
- 10) Subject to paragraph 7) of GC3.6, "Subcontracting", the Contractor shall ensure that the provisions of this clause are included in all agreements and contracts entered into as a consequence of the Work.

GC2.8 (2016-05-01) ACCOUNTS AND AUDITS

- 1) The Contractor shall, in addition to the requirements expressed in paragraph 6) of GC3.4, "Execution of the Work", maintain full records of the Contractor's estimated and actual cost of the Work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto, and shall make them available on request to audit and inspection by Canada and the Deputy Receiver General for Canada or by persons designated to act on behalf of either or both of them.
- 2) The Contractor shall allow any of the persons referred to in paragraph 1) of GC2.8 to make copies of and take extracts from any of the records and material, and shall furnish such persons or entities with any information those persons or entities may require from time to time in connection with such records and material.
- 3) The Contractor shall maintain and keep the records intact until the expiration of six (6) years after the date that a Certificate of Completion has been issued or until the expiration of such other period of time as Canada may direct.
- 4) The Contractor shall cause all subcontractors at any tier and all other persons directly or indirectly controlled by or affiliated with the Contractor and all persons directly or indirectly having control of the Contractor to comply with the requirements of this clause as if they were the Contractor.

GC3 EXECUTION AND CONTROL OF THE WORK

- GC3.1 PROGRESS SCHEDULE
- GC3.2 ERRORS AND OMISSIONS
- GC3.3 CONSTRUCTION SAFETY
- GC3.4 EXECUTION OF THE WORK
- GC3.5 MATERIAL
- GC3.6 SUBCONTRACTING
- GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS
- GC3.8 LABOUR
- GC3.9 TRUCK HAULAGE RATES (CANCELLED)
- GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF CANADA
- GC3.11 DEFECTIVE WORK
- GC3.12 CLEANUP OF SITE
- GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

GC3.1 (2016-05-01) PROGRESS SCHEDULE

The Contractor shall

- a) prepare and submit to Canada, prior to the submission of the Contractor's first progress claim, a progress schedule in accordance with the requirements set out in the Contract;
- b) monitor the progress of the Work relative to the schedule and update the schedule as stipulated by the contract documents;
- c) advise Canada of any revisions to the schedule required as the result of any extension of time for completion of the Contract that was approved by Canada; and
- d) prepare and submit to Canada, at the time of issuance of a Certificate of Substantial Performance, an update of any schedule clearly showing a detailed timetable that is acceptable to Canada for the completion of any unfinished Work and the correction of all listed defects.

GC3.2 (2016-05-01) ERRORS AND OMISSIONS

- 1) The Contractor shall report promptly to Canada any errors, discrepancies, or omissions the Contractor may discover when reviewing the contract documents. In making a review, the Contractor does not assume any responsibility to Canada for the accuracy of the review. The Contractor shall not be liable for damage or costs resulting from such errors, discrepancies, or omissions in the contract documents prepared by or on behalf of Canada that the Contractor did not discover.

GC3.3 CONSTRUCTION SAFETY

- 1) Subject to GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS, the Contractor shall be solely responsible for construction safety at the place of the Work and for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Work. In any emergency, the Contractor shall either stop the Work,

make changes or order extra work to ensure the safety of life and the protection of the Work and neighbouring property.

- 2) Prior to commencing the Work, the Contractor shall notify the authorities having jurisdiction for construction safety at the site of the Work with respect to the intended commencement of the Work, and shall provide such authority with whatever additional information may be required by that authority.

GC3.4 EXECUTION OF THE WORK

- 1) The Contractor shall perform, use or supply and pay for, all labour, Plant, Material, tools, construction machinery and equipment, water, heat, light, power, transportation and other facilities and services necessary for the performance of the Work in accordance with the Contract.
- 2) The Contractor shall, at all times, perform the Work in a proper, diligent and expeditious manner as is consistent with construction industry standards and in accordance with the progress schedule prepared pursuant to GC3.1 PROGRESS SCHEDULE and shall provide sufficient personnel to fulfil the Contractor's obligations in accordance with that schedule.
- 3) Subject to paragraph 4) of GC3.4, the Contractor shall have complete care, custody and control of the Work and shall direct and supervise the Work so as to ensure compliance with the Contract. The Contractor shall be responsible for construction means, methods, techniques, sequences and procedures and for co-ordinating the various parts of the Work.
- 4) When requested in writing by Canada, the Contractor shall make appropriate alterations in the method, Plant or workforce at any time Canada considers the Contractor's actions to be unsafe or damaging to either the Work, existing facilities, persons at the site of the Work or the environment.
- 5) The Contractor shall have sole responsibility for the design, erection, operation, maintenance and removal of temporary structures and other temporary facilities and for the construction methods used in their erection, operation, maintenance and removal. The Contractor shall engage and pay for registered professional engineering personnel, skilled in the appropriate discipline to perform these functions if required by law or by the Contract, and in all cases when such temporary facilities and their methods of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- 6) The Contractor shall keep at least one copy of current contract documents, submittals, reports, and records of meetings at the site of the Work, in good order and available to Canada.
- 7) Except for any part of the Work that is necessarily performed away from or off the site of the Work, the Contractor shall confine Plant, storage of Material, and operations of employees to limits indicated by laws, ordinances, permits or the contract documents.

GC3.5 MATERIAL

- 1) Unless otherwise specified in the Contract, all Material incorporated in the Work shall be new.
- 2) Subject to paragraph 3) of GC3.5, if a specified reused, refurbished, or recycled item of Material is not available, the Contractor shall apply to Canada to substitute a similar item for the one specified.

- 3) If Canada agrees that the Contractor's application for substitution of a reused, refurbished or recycled item is warranted, and that the substitute item is of acceptable quality and value to that specified and is suitable for the intended purpose, Canada may approve the substitution, subject to the following:
 - (a) the request for substitution shall be made in writing to Canada and shall be substantiated by information in the form of the manufacturer's literature, samples and other data that may be required by Canada;
 - (b) the Contractor shall make the request for substitution in a manner that shall not negatively affect the progress schedule of the Contract and well in advance of the time the item of Material must be ordered;
 - (c) substitution of Material shall be permitted only with the prior written approval of Canada, and any substituted items that are supplied or installed without such approval shall be removed from the site of the Work at the expense of the Contractor, and specified items installed at no additional cost to Canada; and
 - (d) the Contractor shall be responsible for all additional expenses incurred by Canada, the Contractor, its subcontractors and suppliers at any tier due to the Contractor's use of the substitute.

GC3.6 SUBCONTRACTING

- 1) Subject to the provisions of this clause, the Contractor may subcontract any part of the Work but not the whole of the Work.
- 2) The Contractor shall notify Canada in writing of the Contractor's intention to subcontract.
- 3) A notification referred to in paragraph 2) of GC3.6 shall identify the part of the Work and the Subcontractor with whom the Contractor intends to subcontract.
- 4) Canada may for reasonable cause, object to the intended subcontracting by notifying the Contractor in writing within six (6) days of receipt by Canada of a notification referred to in paragraph 2) of GC3.6.
- 5) If Canada objects to a subcontracting, the Contractor shall not enter into the intended subcontract.
- 6) The Contractor shall not change, nor permit to be changed, a Subcontractor engaged by the Contractor, in accordance with this clause, without the written consent of Canada.
- 7) The Contractor shall ensure that all the terms and conditions of the Contract that are of general application shall be incorporated in every other contract issued as a consequence of the Contract, at whatever tier, except those contracts issued solely to suppliers at any tier for the supply of Plant or Material.
- 8) Neither a subcontracting nor Canada's consent to a subcontracting shall be construed to relieve the Contractor from any obligation under the Contract or to impose any liability upon Canada.

GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS

- 1) Canada reserves the right to send other contractors or workers, with or without Plant and Material, onto the site of the Work.
- 2) When other contractors or workers are sent on to the site of the Work, Canada shall
 - (a) enter into separate contracts, to the extent it is possible, with the other contractors under conditions of contract that are compatible with the conditions of the Contract;
 - (b) ensure that the insurance coverage provided by the other contractors is co-ordinated with the insurance coverage of the Contractor as it affects the Work; and
 - (c) take all reasonable precautions to avoid labour disputes or other disputes arising from the work of the other contractors or workers.
- 3) When other contractors or workers are sent on to the site of the Work, the Contractor shall
 - (a) co-operate with them in the carrying out of their duties and obligations;
 - (b) co-ordinate and schedule the Work with the work of the other contractors and workers;
 - (c) participate with other contractors and workers in reviewing their construction schedules when directed to do so;
 - (d) where part of the Work is affected by or depends upon the work of other contractors or workers for its proper execution, promptly report to Canada in writing and prior to proceeding with that part of the Work, any apparent deficiencies in such work. Failure by the Contractor to so report shall invalidate any claims against Canada by reason of the deficiencies in the work of other contractors or workers except those deficiencies that are not then reasonably discoverable; and
 - (e) when designated as being responsible for construction safety at the place of work in accordance with the applicable provincial or territorial laws, carry out its duties in that role and in accordance with those laws.
- 4) If, when entering into the Contract, the Contractor could not have reasonably foreseen nor anticipated the sending of other contractors or workers on to the site of the Work and provided the Contractor
 - (a) incurs extra expense in complying with the requirements of paragraph 3) of GC3.7; and
 - (b) gives Canada written notice of a claim for that extra expense within thirty (30) days of the date that the other contractors or workers were sent onto the Work or its site;

Canada shall pay the Contractor the cost of the extra labour, Plant and Material that was necessarily incurred, calculated in accordance with GC6.4 DETERMINATION OF PRICE.

GC3.8 LABOUR

- 1) To the extent to which they are available, consistent with proper economy and the expeditious carrying out of the Work, the Contractor shall, in the performance of the Work, employ a reasonable number of persons who have been on active service with the Armed Forces of Canada and have been honourably discharged therefrom.

- 2) The Contractor shall maintain good order and discipline among the Contractor's employees and workers engaged in the Work and shall not employ on the site of the Work anyone not skilled in the tasks assigned.

GC3.9 TRUCK HAULAGE RATES

CANCELLED

GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF CANADA

- 1) Subject to paragraph 9) of GC1.8 LAWS PERMITS AND TAXES, all Material and Plant and the interest of the Contractor in all real property, licences, powers and privileges purchased, used or consumed by the Contractor for the Work shall, immediately after the time of their purchase, use or consumption be the property of Canada for the purposes of the Work and they shall continue to be the property of Canada
 - (a) in the case of Material, until Canada indicates that the Materials shall not be required for the Work; and
 - (b) in the case of Plant, real property, licences, powers and privileges, until Canada indicates that the interest vested in Canada therein is no longer required for the purposes of the Work.
- 2) Material or Plant, that is the property of Canada by virtue of paragraph 1) of GC3.10, shall not be taken away from the site of the Work nor used nor disposed of except for the purposes of the Work without the written consent of Canada.
- 3) Canada is not liable for loss of nor damage from any cause to the Material or Plant referred to in paragraph 1) of GC3.10, and the Contractor is liable for such loss or damage notwithstanding that the Material or Plant is the property of Canada.

GC3.11 DEFECTIVE WORK

- 1) The Contractor shall promptly remove from the site of the Work and replace or re-execute defective Work whether or not the defective Work has been incorporated in the Work and whether or not the defect is the result of poor workmanship, use of defective Material, or damage through carelessness or other act or omission of the Contractor.
- 2) The Contractor, at the Contractor's expense, shall promptly make good other work destroyed or damaged by such removals or replacements.
- 3) If, in the opinion of Canada, it is not expedient to correct defective Work or Work not performed as provided for in the Contract documents, Canada may deduct from the amount otherwise due to the Contractor the difference in value between the Work as performed and that called for by the contract documents.
- 4) The failure of Canada to reject any defective Work or Material shall not constitute acceptance of the defective Work or Material.

GC3.12 CLEANUP OF SITE

- 1) The Contractor shall maintain the Work and its site in a tidy condition and free from an accumulation of waste material and debris.
- 2) Before the issue of a Certificate of Substantial Performance, the Contractor shall remove waste material and debris, and all Plant and Material not required for the performance of the remaining Work and, unless otherwise stipulated in the Contract Documents, shall cause the Work and its site to be clean and suitable for occupancy by Canada.
- 3) Before the issue of a Certificate of Completion, the Contractor shall remove all surplus Plant and Materials and any waste products and debris from the site of the Work.
- 4) The Contractor's obligations described in paragraphs 1) to 3) of GC3.12 do not extend to waste products and other debris caused by Canada's servants, or by other contractors and workers referred to in GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS.

GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

- 1) Without restricting any warranty or guarantee implied or imposed by law or contained in the Contract, the Contractor shall, at the Contractor's expense
 - (a) rectify and make good any defect or fault that appears in the Work or comes to the attention of Canada with respect to those parts of the Work accepted in connection with the Certificate of Substantial Performance within 12 months from the date of Substantial Performance; and
 - (b) rectify and make good any defect or fault that appears in or comes to the attention of Canada in connection with those parts of the Work described in the Certificate of Substantial Performance within 12 months from the date of the Certificate of Completion.
 - (c) transfer and assign, to Canada, any subcontractor, manufacturer or supplier extended warranties or guarantees implied or imposed by law or contained in the Contract covering periods beyond the 12 months stipulated above. Extended warranties or guarantees referred to herein shall not extend the 12-month period whereby the Contractor, except as may be provided elsewhere in the Contract, must rectify and make good any defect or fault that appears in the Work or comes to the attention of Canada.
 - (d) provide, to Canada prior to the issuance of the Certificate of Completion, a list of all extended warranties and guarantees referred to in paragraph (c) above.
- 2) Canada may direct the Contractor to rectify and make good any defect or fault referred to in paragraph 1) of GC3.13 or covered by any other expressed or implied warranty or guarantee and the Contractor shall rectify and make good such defect within the time stipulated in the direction.
- 3) A direction referred to in paragraph 2) GC3.13 shall be in writing and shall be given to the Contractor in accordance with GC2.3 NOTICES.

GC4 PROTECTIVE MEASURES

GC4.1 PROTECTION OF WORK AND PROPERTY

GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS

GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY CANADA

GC4.4 CONTAMINATED SITE CONDITIONS

GC4.1 PROTECTION OF WORK AND PROPERTY

- 1) The Contractor shall protect the Work and its site against loss or damage from any cause and shall similarly protect all Material, Plant and real property under the Contractor's care, custody and control whether or not such Material, Plant and real property are supplied by Canada to the Contractor.
- 2) The Contractor shall provide all facilities necessary for the purpose of maintaining security, and shall assist any person authorized by Canada to inspect or to take security measures in respect of the Work and its site.
- 3) Canada may direct the Contractor to do such things and to perform such work as Canada considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraphs 1) or 2) of GC4.1, and the Contractor, shall comply with such direction.

GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS

- 1) The Contractor shall do whatever is necessary to ensure that
 - (a) no person, property, right, easement nor privilege is injured, damaged or infringed upon by reasons of the Contractor's activities in performing the Work;
 - (b) pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted nor endangered by the performance or existence of the Work, Material or Plant;
 - (c) fire hazards in or about the site of the Work are eliminated and any fire is promptly extinguished;
 - (d) the health and safety of all persons employed in the performance of the Work is not endangered by the methods nor means of their performance;
 - (e) adequate medical services are available to all persons employed on the Work or its site at all times during the performance of the Work;
 - (f) adequate sanitation measures are taken in respect of the Work and its site; and
 - (g) all stakes, buoys and marks placed on the Work or its site by Canada are protected and are not removed, defaced, altered nor destroyed.
- 2) Canada may direct the Contractor to do such things and to perform such work as Canada considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraph 1) of GC4.2, and the Contractor shall comply with the direction of Canada.

GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY CANADA

- 1) Subject to paragraph 2) of GC4.3, the Contractor is liable to Canada for any loss of or damage to Material, Plant or real property that is supplied or placed in the care, custody and control of the Contractor by Canada for use in connection with the Contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.
- 2) The Contractor is not liable to Canada for any loss or damage to Material, Plant or real property referred to in paragraph 1) of GC4.3 if that loss or damage results from and is directly attributable to reasonable wear and tear.
- 3) The Contractor shall not use any Material, Plant or real property supplied by Canada except for the purpose of performing the Contract.
- 4) When the Contractor fails to make good any loss or damage for which the Contractor is liable under paragraph 1) within a reasonable time, Canada may cause the loss or damage to be made good at the Contractor's expense, and the Contractor shall thereupon be liable to Canada for the cost thereof and shall, on demand, pay to Canada an amount equal to that cost.
- 5) The Contractor shall keep records of all Material, Plant and real property supplied by Canada as Canada requires and shall satisfy Canada, when requested, that such Material, Plant and real property are at the place and in the condition in which they ought to be.

GC4.4 CONTAMINATED SITE CONDITIONS

- 1) For the purposes of GC4.4, a contaminated site condition exists when a solid, liquid, gaseous, thermal or radioactive irritant or contaminant, or other hazardous or toxic substance or material, including moulds and other forms of fungi, is present at the site of the Work to an extent that constitutes a hazard, or potential hazard, to the environment, property, or the health or safety of any person.
- 2) If the Contractor encounters a contaminated site condition of which the Contractor is not aware or about which the Contractor has not been advised, or if the Contractor has reasonable grounds to believe that such a site condition exists at the site of the Work, the Contractor shall
 - (a) take all reasonable steps, including stopping the Work, to ensure that no person suffers injury, sickness or death, and that neither property nor the environment is injured or destroyed as a result of the contaminated site condition;
 - (b) immediately notify Canada of the circumstances in writing; and
 - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification from the Contractor, Canada shall promptly determine whether a contaminated site condition exists, and shall notify the Contractor in writing of any action to be taken, or work to be performed, by the Contractor as a result of Canada's determination.
- 4) If the Contractor's services are required by Canada, the Contractor shall follow the direction of Canada with regard to any excavation, treatment, removal and disposal of any polluting substance or material.

- 5) Canada, at Canada's sole discretion, may enlist the services of experts and specialty contractors to assist in determining the existence of, and the extent and treatment of contaminated site conditions, and the Contractor shall allow them access and co-operate with them in the carrying out of their duties and obligations.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE shall apply to any additional work made necessary because of a contaminated site condition.

GC5 TERMS OF PAYMENT

- GC5.1 INTERPRETATION
- GC5.2 AMOUNT PAYABLE
- GC5.3 INCREASED OR DECREASED COSTS
- GC5.4 PROGRESS PAYMENT
- GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK
- GC5.6 FINAL COMPLETION
- GC5.7 PAYMENT NOT BINDING ON CANADA
- GC5.8 CLAIMS AND OBLIGATIONS
- GC5.9 RIGHT OF SETOFF
- GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION
- GC5.11 DELAY IN MAKING PAYMENT
- GC5.12 INTEREST ON SETTLED CLAIMS
- GC5.13 RETURN OF SECURITY DEPOSIT

GC5.1 INTERPRETATION

In these Terms of Payment

- 1) The "payment period" means a period of 30 consecutive days or such other longer period as may be agreed between the Contractor and Canada.
- 2) An amount is "due and payable" when it is due and payable by Canada to the Contractor according to GC5.4 PROGRESS PAYMENT, GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK or GC5.6 FINAL COMPLETION.
- 3) An amount is "overdue" when it remains unpaid on the first day following the day upon which it is due and payable.
- 4) The "date of payment" means the date of the negotiable instrument of an amount due and payable by the Receiver General for Canada.
- 5) The "Bank Rate" means the rate of interest established by the Bank of Canada as the minimum rate at which it makes short term advances to members of the Canadian Payments Association.
- 6) The "Average Bank Rate" means the simple arithmetic mean of the Bank Rate in effect at 4:00 p.m. Eastern Time each day during the calendar month which immediately precedes the calendar month in which payment is made.

GC5.2 AMOUNT PAYABLE

- 1) Subject to any other provisions of the Contract, Canada shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which the amounts payable by Canada to the Contractor in accordance with the Contract exceed the amounts payable by the Contractor to Canada, and the Contractor shall accept that amount as payment in full satisfaction for everything furnished and done by the Contractor in respect of the Work to which the payment relates.
- 2) When making any payment to the Contractor, the failure of Canada to deduct an amount payable to Canada by the Contractor shall not constitute a waiver of the right to do so, or an admission of lack of entitlement to do so in any subsequent payment to the Contractor.

- 3) Should any payment be made by Canada in excess of what is owed to the Contractor for the actual work performed, the Contractor will reimburse Canada the excess immediately, with or without demand, and any amounts outstanding shall bear simple interest at the Average Bank rate plus 3 percent per annum from the date of overpayment until the day prior to the date of repayment by the Contractor.
- 4) No payment other than a payment that is expressly stipulated in the Contract shall be made by Canada to the Contractor for any extra expense or any loss or damage incurred or sustained by the Contractor.

GC5.3 (2016-05-01) INCREASED OR DECREASED COSTS

1. The Contract Amount shall not be increased nor decreased by reason of any increase or decrease in the cost of the Work that is brought about by an increase or decrease in the cost of labour, Plant, Material or any wage adjustment.
2. Notwithstanding paragraph 1) of GC5.3, if any change, including a new imposition or repeal, of any tax, customs or other duty, charge, or any similar imposition that is imposed under sales, customs or excise tax legislation of the Government of Canada or any Provincial or Territorial legislation, affects the cost of the Work to the Contractor, and occurs
 - a) after the date of submission by the Contractor of its bid; or
 - b) after the date of submission of the last revision, if the Contractor's bid was revised;
 - c) the Contract Amount shall be adjusted in the manner provided in paragraph 3) of GC5.3.
3. If a change referred to in paragraph 2) of GC5.3 occurs, the Contract Amount shall be increased or decreased by an amount established by an examination by Canada of the relevant records of the Contractor referred to in GC2.8, "Accounts and Audits", to be the increase or decrease in the cost incurred by the Contractor that is directly attributable to that change.
4. For the purpose of paragraph 2) of GC5.3, if a tax is changed after the tender closing, but public notice of the change has been given by the Minister of Finance or the corresponding Provincial or Territorial authority before that closing, the change shall be deemed to have occurred before the solicitation closing.
5. Notwithstanding paragraphs 2) to 4) of GC5.3, no adjustment to the Contract Amount in respect of the Work or a part thereof shall be made for a change in any imposition referred to in this section that occurs after the date required by the Contract for completion of the Work or that part of the Work.

GC5.4 (2016-05-01) PROGRESS PAYMENT

- 1) On the expiration of a payment period, the Contractor shall deliver to Canada
 - a) a written progress claim in a form acceptable to Canada that fully describes any part of the Work that has been completed, and any Material that was delivered to the Work site but not incorporated into the Work, during that payment period, and

- b) a completed and signed statutory declaration containing a declaration that, up to the date of the progress claim, the Contractor has complied with all lawful obligations and that, in respect of the Work, all lawful obligations of the Contractor to its Subcontractors and Suppliers, referred to collectively in the declaration as "subcontractors and suppliers", have been fully discharged.
- 2) Within 10 days of receipt of a progress claim and statutory declaration from the Contractor, Canada shall inspect, or cause to have inspected, the part of the Work and the Material described in the progress claim, and shall issue a progress report to the Contractor, that indicates the value of the part of the Work and the Material described in the progress claim that, in the opinion of Canada
- a) is in accordance with the Contract; and
 - b) was not included in any other progress report relating to the Contract.
- 3) Subject to GC5.2, "Amount Payable", and paragraph 5) of GC5.4, Canada shall pay the Contractor an amount that is equal to
- a) 95 percent of the value that is indicated in Canada's progress report if a labour and material payment bond has been furnished by the Contractor; or
 - b) 90 percent of the value that is indicated in Canada's progress report if a labour and material payment bond has not been furnished by the Contractor.
- 4) Canada shall pay the amount referred to in paragraph 3) of GC5.4 not later than
- a) 30 days after receipt by Canada of both a progress claim and a statutory declaration referred to in paragraph 1) of GC5.4; or
 - b) 15 days after receipt by Canada of the Contractor's progress schedule or updated progress schedule, in accordance with GC3.1, "Progress Schedule",
- whichever is later.
- 5) In the case of the Contractor's first progress claim, it is a condition precedent to Canada's obligation under paragraph 3) of GC5.4 that the Contractor has provided all necessary documentation required by the Contract for the first progress claim.

GC5.5 (2016-05-01) SUBSTANTIAL PERFORMANCE OF THE WORK

1. If, at any time before the issuance of a Certificate of Completion, Canada determines that the Work has reached Substantial Performance as described in subparagraph 1) (b) of GC1.1.4, "Substantial Performance", Canada shall issue a Certificate of Substantial Performance to the Contractor. The Certificate of Substantial Performance shall state or describe
- a) the date of Substantial Performance;
 - b) the parts of the Work not completed to the satisfaction of Canada; and
 - c) all things that must be done by the Contractor before a Certificate of Completion is issued and before the 12-month warranty period referred to in GC3.13, "Warranty and Rectification of Defects in Work", commences for the said parts and all the said things.

2. The issuance of a Certificate of Substantial Performance does not relieve the Contractor from the Contractor's obligations under GC3.11, "Defective Work".
3. Subject to GC5.2, "Amount Payable", and paragraph 4) of GC5.5, Canada shall pay the Contractor the amount referred to in paragraph 1) of GC5.2, "Amount Payable", less the aggregate of
 - a) the sum of all payments that were made pursuant to GC5.4, "Progress Payment";
 - b) an amount that is equal to Canada's estimate of the cost to Canada of rectifying defects described in the Certificate of Substantial Performance; and
 - c) an amount that is equal to Canada's estimate of the cost to Canada of completing the parts of the Work described in the Certificate of Substantial Performance other than defects listed therein.
4. Canada shall pay the amount referred to in paragraph 3) of GC5.5 not later than
 - a) 30 days after the date of issue of a Certificate of Substantial Performance, or
 - b) 15 days after the Contractor has delivered to Canada
 - I. a statutory declaration containing a declaration by the Contractor that up to the date of the Certificate of Substantial Performance, the Contractor has complied with all lawful obligations, discharged all its lawful obligations to its Subcontractors and Suppliers in respect of the work under the Contract, and discharged its lawful obligations referred to in GC1.8, "Laws, Permits and Taxes";
 - II. evidence of compliance with workers' compensation legislation in accordance with GC1.9, "Workers' Compensation"; and
 - III. an update of the progress schedule in accordance with the requirements of GC3.1, "Progress Schedule"; whichever is later.

GC5.6 FINAL COMPLETION

- 1) When Canada is of the opinion that the Contractor has complied with the Contract and all orders and directions made pursuant thereto, and that the Work has been completed as described in GC1.1.5 COMPLETION, Canada shall issue a Certificate of Completion to the Contractor and, if the Work or a portion of the Work is subject to a Unit Price Arrangement, Canada shall issue a Certificate of Measurement that shall, subject to GC8, be binding upon and conclusive between Canada and the Contractor as to the quantities referred to therein.
- 2) Subject to GC5.2 AMOUNT PAYABLE and paragraph 3) of GC5.6, Canada shall pay the Contractor the amount referred to in GC5.2 AMOUNT PAYABLE, less the aggregate of the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT and GC5.5 SUBSTANTIAL PERFORMANCE OF WORK.
- 3) Canada shall pay the amount referred to in paragraph 2) of GC5.6 not later than
 - a) 60 days after the date of issue of a Certificate of Completion; or
 - b) 15 days after the Contractor has delivered to Canada

- (i) a statutory declaration which contains a declaration by the Contractor that all of the Contractor's lawful obligations and any lawful claims against the Contractor that arose out of the performance of the Contract have been discharged and satisfied; and
- (ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION;

whichever is later.

GC5.7 (2016-05-01) PAYMENT NOT BINDING ON CANADA

- 1) Neither acceptance of a progress claim or progress report, nor any payment made by Canada under the Contract, nor partial or entire use or occupancy of the Work by Canada shall constitute an acceptance by Canada of any portion of the Work or Material that is not in accordance with the requirements of the Contract.

GC5.8 CLAIMS AND OBLIGATIONS

- 1) The Contractor shall discharge all the Contractor's lawful obligations and shall satisfy all lawful claims against the Contractor arising out of the performance of the Work at least as often as the Contract requires Canada to pay the Contractor.
- 2) Whenever requested to do so by Canada, the Contractor shall make a statutory declaration declaring to the existence and condition of any obligations and claims against the Contractor arising out of the performance of the Work.
- 3) In order to discharge lawful obligations of and satisfy lawful claims against the Contractor or its Subcontractors arising out of the performance of the Contract, Canada may pay an amount that is due and payable to the Contractor directly to the claimant. Such payment is, to the extent of the payment, a discharge of Canada's liability to the Contractor under the Contract and may be deducted from any amount payable to the Contractor under the Contract.
- 4) For the purposes of paragraph 3) of GC5.8, and subject to paragraph 6) of GC5.8, a claim or obligation shall be considered lawful when it is so determined by
 - (a) a court of legal jurisdiction;
 - (b) an arbitrator duly appointed to arbitrate the claim; or
 - (c) the written consent of the Contractor authorizing payment of the claim or obligation.
- 5) If a claim or obligation would have been subject to the provisions of Provincial or Territorial lien legislation or, in the Province of Quebec, the law relating to legal hypothecs had the Contractor been performing the Work for an entity other than Canada
 - (a) such amount as may be paid by Canada pursuant to paragraphs 3) and 4) of GC5.8 shall not exceed the amount that the Contractor would have been obliged to pay had the provisions of such legislation or law been applicable to the Work;
 - (b) a claimant need not comply with the provisions of such legislation, setting out the steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which the claimant might have had; and

- (c) for the purposes of determining the entitlement of a claimant, the notice required by paragraph 8) of GC5.8 shall be deemed to replace the registration or provision of notice after the performance of work as required by any applicable legislation and no claim shall be deemed to have expired, become void or unenforceable by reason of the claimant not commencing any action within the time prescribed by such legislation.
- 6) The Contractor shall, at the request of any claimant, submit to binding arbitration those questions that need to be answered to establish the entitlement of the claimant to payment. The arbitration shall have as parties to it any Subcontractor or Supplier to whom the claimant supplied Material, performed work or rented equipment should such Subcontractor or Supplier wish to be adjoined, and Canada shall not be a party to such arbitration. Subject to any agreement between the Contractor and the claimant, the arbitration shall be conducted in accordance with the governing Provincial or Territorial legislation applicable to the site of the Work.
- 7) Paragraph 3) of GC5.8 shall apply only to claims and obligations
- (a) the notification of which has set forth the amount claimed to be owing and the person who by contract is primarily liable and has been received by Canada in writing before final payment is made to the Contractor pursuant to GC5.6 FINAL COMPLETION, and within 120 days of the date on which the claimant
 - (i) should have been paid in full under the claimant's contract with the Contractor, its Subcontractor or Supplier if the claim is for money that was lawfully required to be held back from the claimant; or
 - (ii) performed the last of the services, work or labour, or furnished the last of the Material pursuant to the claimant's contract with the Contractor or its Subcontractor or Supplier where the claim is for money not lawfully required to be held back from the claimant; and
 - (b) the proceedings to determine the right to payment of which, pursuant to paragraph 5) of GC5.8, shall have commenced within one year from the date that the notification required by subparagraph 7)(a) of GC5.8 was received by Canada.
- 8) Upon receipt of a notice of claim, Canada may withhold, from any amount that is due and payable to the Contractor pursuant to the Contract, the full amount of the claim or any portion thereof.
- 9) Canada shall notify the Contractor in writing in a timely manner of receipt of any claim and of the intention of Canada to withhold funds. At any time thereafter and until payment is made to the claimant, the Contractor may be entitled to post, with Canada, security in a form acceptable to Canada in an amount equal to the value of the claim, and upon receipt of such security Canada shall release to the Contractor any funds that would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of this clause in respect of the claim of any claimant for whom the security stands.

GC5.9 RIGHT OF SETOFF

- 1) Without limiting any right of setoff or deduction given or implied by law or elsewhere in the Contract, Canada may set off any amount payable to Canada by the Contractor under the Contract, or under any current contract, against any amount payable to the Contractor under the Contract.

- 2) For the purposes of paragraph 1) of GC5.9, "current contract" means a contract between Canada and the Contractor
 - (a) under which the Contractor has an undischarged obligation to perform or supply work, labour or material; or
 - (b) in respect of which Canada has, since the date of the Contract, exercised any right to take the work that is the subject of that contract out of the Contractor's hands.

GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION

- 1) For the purposes of this clause
 - (a) the Work shall be deemed to be completed on the date of the Certificate of Completion; and
 - (b) the "period of delay" means the number of days commencing on the day fixed for completion of the Work and ending on the day immediately preceding the day on which the Work is completed but does not include any day within a period of extension granted pursuant to GC6.5 DELAYS AND EXTENSION OF TIME and any other day on which, in the opinion of Canada, completion of the Work was delayed for reasons beyond the control of the Contractor.
- 2) If the Contractor does not complete the Work by the day fixed for its completion but completes it thereafter, the Contractor shall pay Canada an amount equal to the aggregate of
 - (a) all salaries, wages and travelling expenses incurred by Canada in respect of persons overseeing the performance of the Work during the period of delay;
 - (b) the cost incurred by Canada as a result of the inability to use the completed Work for the period of delay; and
 - (c) all other expenses and damages incurred or sustained by Canada during the period of delay as a result of the Work not being completed by the day fixed for its completion.
- 3) Canada may waive the right of Canada to the whole or any part of the amount payable by the Contractor pursuant to paragraph 2) of GC5.10 if, in the opinion of Canada, it is in the public interest to do so.

GC5.11 DELAY IN MAKING PAYMENT

- 1) Notwithstanding GC1.5 TIME OF THE ESSENCE, any delay by Canada in making any payment when it is due pursuant to GC5 TERMS OF PAYMENT, shall not be a breach of the Contract by Canada.
- 2) Subject to paragraph 3) of GC5.11, Canada shall pay to the Contractor simple interest at the Average Bank Rate plus 3 percent per annum on any amount that is overdue pursuant to paragraph 3) of GC5.1 INTERPRETATION, and the interest shall apply from and include the day such amount became overdue until the day prior to the date of payment.
- 3) Interest shall be paid without demand by the Contractor except that

- (a) in respect of amounts that are less than 15 days overdue, no interest shall be paid in respect of payment made within such 15 days unless the Contractor so demands after such amounts have become due and payable; and
- (b) interest shall not be payable or paid on overdue advance payments, if any.

GC5.12 INTEREST ON SETTLED CLAIMS

- 1) For the purposes of this clause, a claim means a disputed amount subject to negotiation between Canada and the Contractor under the Contract.
- 2) A claim is deemed to have been settled when an agreement in writing is signed by Canada and the Contractor setting out the amount of the claim to be paid by Canada and the items of work for which the said amount is to be paid.
- 3) A settled claim is deemed to be outstanding from the day immediately following the date the said claim would have been due and payable under the Contract had it not been disputed.
- 4) Canada shall pay to the Contractor simple interest on the amount of a settled claim at the Average Bank Rate plus 3 percent per annum from the date the settled claim was deemed to be outstanding until the day prior to the date of payment.

GC5.13 RETURN OF SECURITY DEPOSIT

- 1) After a Certificate of Substantial Performance has been issued, and if the Contractor is not in breach of nor in default under the Contract, Canada shall return to the Contractor all or any part of a Security Deposit that, in the opinion of Canada, is not required for the purposes of the Contract.
- 2) After a Certificate of Completion has been issued, Canada shall return to the Contractor the remainder of any security deposit unless the Contract stipulates otherwise.
- 3) If the security deposit was paid into the Consolidated Revenue Fund of Canada, Canada shall pay interest thereon to the Contractor at a rate established pursuant to section 21(2) of the [Financial Administration Act \(FAA\)](#).

GC6 DELAYS AND CHANGES IN THE WORK

- GC6.1 CHANGES IN THE WORK
- GC6.2 CHANGES IN SUBSURFACE CONDITIONS
- GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST
- GC6.4 DETERMINATION OF PRICE
 - GC6.4.1 Price Determination Prior to Undertaking Changes
 - GC6.4.2 Price Determination Following Completion of Changes
 - GC6.4.3 Price Determination - Variations in Tendered Quantities
- GC6.5 DELAYS AND EXTENSION OF TIME

GC6.1 CHANGES IN THE WORK

- 1) At any time before issuance of a Certificate of Completion, Canada may issue orders for additions, deletions or other changes to the Work, or changes in the location or position of the whole or any part of the Work, if the addition, deletion, change or other revision is deemed by Canada to be consistent with the general intent of the Contract.
- 2) An order referred to in paragraph 1) of GC6.1 shall be in writing and given to the Contractor in accordance with GC2.3 NOTICES.
- 3) Upon receipt of an order, the Contractor shall promptly perform the work in accordance with the order as if the order had appeared in and been part of the original Contract.
- 4) If anything done or omitted by the Contractor pursuant to an order increases or decreases the cost of the Work to the Contractor, payment for the work shall be made in accordance with GC6.4 DETERMINATION OF PRICE.

GC6.2 CHANGES IN SUBSURFACE CONDITIONS

- 1) If, during the performance of the Work, the Contractor encounters subsurface conditions that are substantially different from the subsurface conditions described in the tender documents supplied to the Contractor, or a reasonable assumption of fact based thereon, the Contractor shall give notice to Canada immediately upon becoming aware of the situation.
- 2) If the Contractor is of the opinion that the Contractor may incur or sustain any extra expense or any loss or damage that is directly attributable to the changed subsurface conditions, the Contractor shall within 10 days of the date the changed subsurface conditions were encountered, give Canada written notice of intention to claim for that extra expense, loss or damage.
- 3) If the Contractor has given a notice referred to in paragraph 2) of GC6.2, the Contractor shall give Canada a written claim for extra expense, loss or damage no later than 30 days after the date that a Certificate of Substantial Performance is issued.
- 4) A written claim referred to in paragraph 3) of GC6.2 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified, and the Contractor shall supply such further and other information for that purpose as Canada requires.
- 5) If Canada determines that a claim referred to in paragraph 3) of GC6.2 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.

- 6) If, in the opinion of Canada, the Contractor effects a saving of expenditure that is directly attributable to a substantial difference between the information relating to subsurface conditions at the site of the Work that is contained in the tender documents, or a reasonable assumption of fact based thereon, and the actual subsurface conditions encountered by the Contractor, the Contract Amount shall be reduced by the amount of the saving of expenditure determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 7) If the Contractor fails to give a notice referred to in paragraph 2) of GC6.2 and a claim referred to in paragraph 3) of GC6.2 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.
- 8) Canada does not warrant the content expressed in any subsurface report available for the perusal of the Contractor that does not form part of the tender and contract documents.

GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST

- 1) For the purposes of this clause
 - (a) "human remains" means the whole or any part of a deceased human being, irrespective of the time of death;
 - (b) "archaeological remains" are items, artefacts or things made, modified or used by human beings in antiquity and may include, but not be limited to, stone, wood or iron structures or monuments, dump deposits, bone artefacts, weapons, tools, coins, and pottery; and
 - (c) "items of historical or scientific interest" are naturally occurring or manufactured objects or things of any age that are not archaeological remains but may be of interest to society because of their historical or scientific significance, value, rarity, natural beauty, or other quality.
- 2) If, during the course of the Work, the Contractor encounters any object, item or thing which is described in paragraph 1) of GC6.3 or which resembles any object, item or thing described in paragraph 1) of GC6.3, the Contractor shall
 - (a) take all reasonable steps, including stopping work in the affected area, to protect and preserve the object, item or thing;
 - (b) immediately notify Canada of the circumstances in writing; and
 - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification in accordance with subparagraph 2)(b) of GC6.3, Canada shall promptly determine whether the object, item or thing is one described in, or contemplated by paragraph 1) of GC6.3, and shall notify the Contractor in writing of any action to be performed, or work to be carried out, by the Contractor as a result of Canada's determination.
- 4) Canada may, at any time, enlist the services of experts to assist in the investigation, examination, taking of measurements or other such recordings, placing of permanent protection around or removing of the object, item or thing encountered by the Contractor, and the Contractor shall, to the satisfaction of Canada, allow them access and co-operate with them in the carrying out of their duties and obligations.

- 5) Human remains, archaeological remains and items of historical or scientific interest encountered at the site of the Work shall be deemed to be the property of Canada.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE and GC6.5 DELAYS AND EXTENSION OF TIME shall apply.

GC6.4 DETERMINATION OF PRICE

GC6.4.1 Price Determination Prior to Undertaking Changes

- 1) If a Lump Sum Arrangement applies to the Contract or a part thereof, the price of any change shall be the aggregate estimated cost of labour, Plant and Material that is required for the change as agreed upon in writing by the Contractor and Canada plus a negotiated allowance for supervision, co-ordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount.
- 2) If a Unit Price Arrangement applies to the Contract or a part thereof, the Contractor and Canada may, by agreement in writing, add items, units of measurement, estimated quantities and prices per unit to the Unit Price Table.
- 3) A price per unit referred to in paragraph 2) of GC6.4.1 shall be determined on the basis of the aggregate estimated cost of labour, Plant and Material that is required for the additional item as agreed upon by the Contractor and Canada, plus a negotiated allowance.
- 4) To facilitate approval of the price of the change or the additional price per unit as applicable, the Contractor shall submit a cost estimate breakdown identifying, as a minimum, the estimated cost of labour, Plant, Material, each subcontract amount, and the amount of the negotiated allowance.
- 5) If no agreement is reached as contemplated in paragraph 1) of GC6.4.1, the price shall be determined in accordance with GC6.4.2.
- 6) If no agreement is reached, as contemplated in paragraphs 2) and 3) of GC6.4.1, Canada shall determine the class and the unit of measurement of the item of labour, Plant or Material and the price per unit shall be determined in accordance with GC6.4.2.

GC6.4.2 Price Determination Following Completion of Changes

- 1) If it is not possible to predetermine, or if there is failure to agree upon the price of a change in the Work, the price of the change shall be equal to the aggregate of
 - (a) all reasonable and proper amounts actually expended or legally payable by the Contractor in respect of the labour, Plant and Material that fall within one of the classes of expenditure described in paragraph 2) of GC6.4.2, that are directly attributable to the performance of the Contract;
 - (b) an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, in an amount that is equal to 10 percent of the sum of the expenses referred to in subparagraph 1)(a) of GC6.4.2; and
 - (c) interest on the amounts determined under subparagraphs 1)(a) and 1)(b) of GC6.4.2 calculated in accordance with GC5.12 INTEREST ON SETTLED CLAIMS;

- 2) The cost of labour, Plant and Material referred to in subparagraph 1)(a) of GC6.4.2 shall be limited to the following categories of expenditure:
- (a) payments to Subcontractors and Suppliers;
 - (b) wages, salaries, bonuses and, if applicable, travel and lodging expenses of employees of the Contractor located at the site of the Work and that portion of wages, salaries, bonuses and, if applicable, travel and lodging expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor provided they are actually and properly engaged on the Work under the Contract;
 - (c) assessments payable under any statutory authority relating to workers' compensation, employment insurance, pension plan or holidays with pay, provincial health or insurance plans, environmental reviews, and Applicable Taxes collection costs;
 - (d) rent that is paid for Plant, or an amount equivalent to the said rent if the Plant is owned by the Contractor, that is necessary for and used in the performance of the Work, if the rent or the equivalent amount is reasonable and use of that Plant has been approved by Canada;
 - (e) payments for maintaining and operating Plant necessary for and used in the performance of the Work, and payments for effecting repairs thereto that, in the opinion of Canada, are necessary for the proper performance of the Contract, other than payments for any repairs to the Plant arising out of defects existing before its allocation to the Work;
 - (f) payments for Material that is necessary for and incorporated in the Work, or that is necessary for and consumed in the performance of the Contract;
 - (g) payments for preparation, delivery, handling, erection, installation, inspection, protection and removal of the Plant and Material necessary for and used in the performance of the Contract; and
 - (h) any other payments made by the Contractor with the approval Canada that are necessary for the performance of the Contract in accordance with the Contract Documents.

GC6.4.3 Price Determination - Variations in Tendered Quantities

- 1) Except as provided in paragraphs 2), 3), 4) and 5) of GC6.4.3, if it appears that the final quantity of labour, Plant and Material under a price per unit item shall exceed or be less than the estimated tendered quantity, the Contractor shall perform the Work or supply the Plant and Material required to complete the item and payment shall be made for the actual Work performed or Plant and Material supplied at the price per unit set out in the Contract.
- 2) If the final quantity of the price per unit item exceeds the estimated tendered quantity by more than 15 percent, either party to the Contract may make a written request to the other party to negotiate an amended price per unit for that portion of the item which exceeds 115 percent of the estimated tendered quantity, and to facilitate approval of any amended price per unit, the Contractor shall, on request, provide Canada with
- (a) detailed records of the actual cost to the Contractor of performing or supplying the tendered quantity for the price per unit item up to the time the negotiation was requested; and

- (b) the estimated unit cost of labour, Plant and Material required for the portion of the item that is in excess of 115 percent of the tendered quantity.
- 3) If agreement is not reached as contemplated in paragraph 2) of GC6.4.3, the price per unit shall be determined in accordance with GC6.4.2.
- 4) If it appears that the final quantity of labour, Plant and Material under a price per unit item shall be less than 85 percent of the estimated tendered quantity, either party to the Contract may make a written request to the other party to negotiate a change to the price per unit for the item if
 - (a) there is a demonstrable difference between the unit cost to the Contractor of performing or supplying the estimated tendered quantity and the unit cost to the Contractor for performing or supplying the final quantity; and
 - (b) the difference in unit cost is due solely to the decrease in quantity and not to any other cause.
- 5) For the purposes of the negotiation referred to in paragraph 4) of GC6.4.3
 - (a) the onus of establishing, justifying and quantifying a proposed change lies with the party making the request for negotiation; and
 - (b) in no event shall the total price for an item that has been amended as a result of a reduction in quantity pursuant to paragraph 4) of GC6.4.3 exceed the amount that would have been payable to the Contractor had 85 percent of the tendered quantity actually been performed or supplied.

GC6.5 DELAYS AND EXTENSION OF TIME

- 1) Upon application of the Contractor made before the date first fixed for completion of the Work or before any other date previously fixed under this clause, Canada may extend the time for completion of the Work by fixing a new date if Canada determines that causes beyond the control of the Contractor have delayed its completion.
- 2) The Contractor's application shall be accompanied by the written consent of the bonding company whose bond forms part of the Contract Security.
- 3) Subject to paragraph 4) of GC6.5, no payment, other than a payment that is expressly stipulated in the Contract, shall be made by Canada to the Contractor for any extra expense, loss or damage incurred or sustained by the Contractor due to delay, whether or not the delay is caused by circumstances beyond the control of the Contractor.
- 4) If the Contractor incurs or sustains any extra expense or any loss or damage that is directly attributable to any neglect or delay that occurs after the date of the Contract on the part of Canada in providing any information or in doing any act that the Contract either expressly requires Canada to do or that would ordinarily be done by an owner in accordance with the practice of the trade, the Contractor shall give Canada written notice of intention to claim for that extra expense or loss or damage within ten working days of the date the neglect or delay first occurred.
- 5) When the Contractor has given a notice referred to in paragraph 4) of GC6.5, the Contractor shall give Canada a written claim for the extra expense, loss or damage no later than 30 days after the date that a Certificate of Completion is issued and not afterwards.

- 6) A written claim referred to in paragraph 5) of GC6.5 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified and the Contractor shall supply such further and other information for that purpose as Canada may require.
- 7) If Canada determines that a claim referred to in paragraph 5) of GC6.5 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.
- 8) If the Contractor fails to give a notice referred to in paragraph 4) and a claim referred to in paragraph 5) of GC6.5 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.

GC7 DEFAULT, SUSPENSION OR TERMINATION OF CONTRACT

GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS

GC7.2 SUSPENSION OF WORK

GC7.3 TERMINATION OF CONTRACT

GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS

- 1) By giving notice in writing to the Contractor in accordance with GC2.3 NOTICES, Canada, without any other authorization, may take all or any part of the Work out of the Contractor's hands, and may employ such means as Canada sees fit to have the Work completed if the Contractor:
 - (a) fails to remedy any delay in the commencement or default in the diligent performance of the Work to the satisfaction of Canada within six days of Canada giving notice to the Contractor in writing in accordance with GC2.3 NOTICES;
 - (b) defaults in the completion of any part of the Work within the time fixed for its completion by the Contract;
 - (c) becomes insolvent, or has committed an act of bankruptcy, and has neither made a proposal to its creditors nor filed a notice of intention to make such a proposal, pursuant to the [Bankruptcy and Insolvency Act](#);
 - (d) abandons the work;
 - (e) makes an assignment of the Contract without the consent required by GC1.16 ASSIGNMENT; or
 - (f) otherwise fails to observe or perform any of the provisions of the Contract.
- 2) If the whole or any part of the Work is taken out of the Contractor's hands, the Contractor's right to any further payment that is due or accruing due under the Contract is, subject only to paragraph 3) of GC7.1, extinguished, and the Contractor is liable to pay Canada, upon demand, an amount that is equal to the amount of all loss and damage incurred or sustained by Canada in respect of the Contractor's failure to complete the Work.
- 3) If the whole or any part of the Work that is taken out of the Contractor's hands is completed by Canada, Canada may pay the Contractor the amount, if any, of the holdback or a progress claim as determined by Canada that had accrued and was due prior to the date on which the Work was taken out of the Contractor's hands and that is not required for the purposes of having the Work performed or of compensating Canada for any other loss or damage incurred or sustained by reason of the Contractor's default.
- 4) The taking of the Work or any part thereof out of the Contractor's hands does not relieve the Contractor from any obligation under the Contract or imposed by law except the obligation to complete the performance of that part of the Work that was taken out of the Contractor's hands.
- 5) If the Work or any part thereof is taken out of the Contractor's hands, all Plant and Material and the interest of the Contractor, or its suppliers or subcontractors at any tier, in all real property, licences, powers and privileges acquired, used or provided by the Contractor, or its suppliers or subcontractors at any tier, under the Contract shall continue to be the property of Canada without compensation.

- 6) When Canada certifies that any Plant, Material, or any interest of the Contractor is no longer required for the purposes of the Work, or that it is not in the interests of Canada to retain that Plant, Material, or interest, it shall revert to the Contractor.
- 7) If the Contractor has become insolvent or has committed an act of bankruptcy, and has either made a proposal to its creditors or filed a notice of intention to make such a proposal, pursuant to the [Bankruptcy and Insolvency Act](#), the Contractor shall immediately forward a copy of the proposal or the notice of intention to Canada.

GC7.2 SUSPENSION OF WORK

- 1) When, in Canada's opinion, it is in the public interest to do so, Canada may require the Contractor to suspend performance of the Work either for a specified or an unspecified period, by giving a notice of suspension in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) When a notice of suspension is received by the Contractor, the Contractor shall suspend all operations in respect of the Work except those that Canada determines are necessary for the care and preservation of the Work, Plant and Material.
- 3) During a period of suspension, the Contractor shall not remove any part of the Work, Plant or Material from its site without the consent of Canada.
- 4) If a period of suspension is 60 days or less, the Contractor shall resume the performance of the Work on the expiration of that period, and the Contractor is entitled to be paid the extra costs necessarily incurred by the Contractor as a result of the suspension, determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 5) If a period of suspension is more than 60 days, Canada and the Contractor may agree that the performance of the Work shall be continued by the Contractor, and the Contractor shall resume performance of the Work subject to any terms and conditions agreed upon by Canada and the Contractor. If Canada and the Contractor do not agree that performance of the Work shall be continued by the Contractor, or upon the terms and conditions under which the Contractor shall continue the Work, the notice of suspension shall be deemed to be a notice of termination pursuant to GC7.3 TERMINATION OF CONTRACT.

GC7.3 TERMINATION OF CONTRACT

- 1) Canada may terminate the Contract at any time by giving a notice of termination in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) If the Contractor receives a notice of termination, the Contractor shall forthwith cease all operations in performance of the Contract, subject to any conditions stipulated in the notice.
- 3) Subject to paragraph 4) of GC7.3, if the Contract is terminated, Canada shall pay the Contractor an amount determined to be due to the Contractor pursuant to GC6.4 DETERMINATION OF PRICE less the aggregate of all amounts that were paid to the Contractor by Canada and all amounts that are due to Canada from the Contractor pursuant to the Contract.
- 4) In no event shall the total amount payable by Canada to the Contractor exceed the amount, calculated in accordance with GC5 TERMS OF PAYMENT, that would have been payable to the Contractor had the Contractor completed the Work.

- 5) Payment to the Contractor, if any, shall be made as soon as practicable under the circumstances.

GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

- 1) If the Work is taken out of the Contractor's hands, or the Contractor is in breach of, or in default under, the Contract, Canada may convert a security deposit to Canada's own use.
- 2) If Canada converts a security deposit, the amount realized shall be deemed to be an amount due from Canada to the Contractor under the Contract.
- 3) Any balance of the amount realized that remains after payment of all losses, damage and claims of Canada and others shall be paid by Canada to the Contractor if, in the opinion of Canada, it is not required for the purposes of the Contract.

GC8 DISPUTE RESOLUTION

- GC8.1 INTERPRETATION
- GC8.2 CONSULTATION AND CO-OPERATION
- GC8.3 NOTICE OF DISPUTE
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 - GC8.10.10 Termination of Mediation
 - GC8.10.11 Costs
 - GC8.10.12 Subsequent Proceedings

GC8.1 INTERPRETATION

- 1) "dispute" means any disagreement regarding any issue identified by the Contractor in the notice submitted to Canada in accordance with paragraph 2 of GC8.3 NOTICE OF DISPUTE, and includes any claim by the Contractor arising from such disagreement and any counterclaim by Canada, but does not include any claim by either party for punitive or exemplary damages, injury to persons, death, or any claim based on an allegation of libel or slander.
- 2) The alternative dispute resolution procedures set out in GC8, do not apply to any claim by Canada against the Contractor except any counterclaim in a dispute as defined in paragraph 1 of GC8.1, including, but not limited to, any claim of setoff regarding any amount due to Canada under GC5.10 ASSESSMENT AND DAMAGES FOR LATE COMPLETION.

GC8.2 CONSULTATION AND CO-OPERATION

- 1) The parties agree to maintain open and honest communication throughout the performance of the Contract.
- 2) The parties agree to consult and co-operate with each other in the furtherance of the Work and the resolution of problems or differences that may arise.

GC8.3 NOTICE OF DISPUTE

- 1) Any difference between the parties to the Contract of any nature arising out of or in connection with the Contract which could result in a claim by the Contractor against Canada, and which is not settled by consultation and co-operation as envisaged in GC8.2

CONSULTATION AND CO-OPERATION, shall be resolved in the first instance by Canada, whose written decision or direction shall be final and binding subject only to the provisions of GC8. Such written decision or direction includes, but is not limited to, any written decision or direction by Canada under any provision of the General Conditions.

- 2) The Contractor shall be deemed to have accepted the decision or direction of Canada referred to in paragraph 1) of GC8.3 and to have expressly waived and released Canada from any claim in respect of the particular matter dealt with in that decision or direction unless, within 15 working days after receipt of the decision or direction, the Contractor submits to Canada a written notice of dispute requesting formal negotiation under GC8.4 NEGOTIATION. Such notice shall refer specifically to GC8.4 NEGOTIATION, and shall specify the issues in contention and the relevant provisions of the Contract.
- 3) The giving of a written notice in accordance with paragraph 2) of GC8.3 shall not relieve the Contractor from complying with the decision or direction that is the subject of the dispute. Such compliance, however, shall not be construed as an admission by the Contractor of the correctness of such decision or direction.
- 4) If a dispute is not resolved promptly, Canada shall give such instructions as, in Canada's opinion, are necessary for the proper performance of the Work and to prevent delays pending a resolution of the matter. Unless Canada terminates the Contract, orders the Contractor to suspend the Work, or takes the Work out of the hands of the Contractor, the Contractor shall continue to perform the Work in accordance with the provisions and requirements of the Contract and the instructions of Canada. Such performance shall not prejudice any claim that the Contractor may have.
- 5) Nothing in GC8 relieves the Contractor from its obligation to provide any other notice required by the Contract within the time specified in the Contract, including but not limited to, any notice required under GC6.2 CHANGES IN SUBSURFACE CONDITIONS.

GC8.4 NEGOTIATION

- 1) Within 10 working days after receipt by Canada of a notice referred to in paragraph 2) of GC8.3 NOTICE OF DISPUTE, or within such other period of time as may be mutually agreed to, the parties shall commence formal negotiations in order to resolve the dispute. Negotiations shall occur initially between representatives of the Contractor and Canada who play a direct supervisory role in the performance, administration or management of the Contract.
- 2) If the representatives referred to in paragraph 1) of GC8.4 are unable to resolve some or all of the issues which are the subject of the negotiations within 10 working days, the parties shall refer the remaining issues which are in dispute to a second level of negotiation between a principal or principals of the Contractor and a senior level manager or senior level managers representing Canada.
- 3) If negotiations fail to resolve the dispute within 30 working days from the date of delivery of the notice referred to in paragraph 2) of GC8.3 NOTICE OF DISPUTE, or within such longer period as may have been agreed to by the parties, the Contractor may, by giving written notice to Canada, in accordance with GC2.3 NOTICES, within 10 working days from the end of such period, request that mediation be undertaken to assist the parties to reach agreement on the outstanding issues.
- 3) If the Contractor does not request mediation within the period permitted by paragraph 3) of GC8.4, the Contractor shall be deemed to have accepted the decision or direction of Canada under paragraph 1) of GC8.3 NOTICE OF DISPUTE and to have expressly waived and

released Canada from any claim in respect of the particular matter dealt with in that decision or direction.

GC8.5 MEDIATION

- 1) If the Contractor has requested mediation in accordance with paragraph 3) of GC8.4 NEGOTIATION, mediation shall be conducted in accordance with GC8.8 RULES FOR MEDIATION OF DISPUTES.
- 2) If a Project Mediator has not previously been appointed for the purposes of the Contract, a Project Mediator shall be appointed in accordance with GC8.8 RULES FOR MEDIATION OF DISPUTES forthwith after delivery of a notice in accordance with paragraph 3) of GC8.4 NEGOTIATION, requesting mediation.
- 3) If the dispute has not been resolved within
 - (a) Ten (10) working days following the appointment of a Project Mediator in accordance with paragraph 2) of GC8.5, if a Project Mediator was not previously appointed;
 - (b) Ten (10) working days following receipt by Canada of a written notice in accordance with paragraph 3) of GC8.4 NEGOTIATION, if a Project Mediator was previously appointed; or
 - (c) such other longer period as may have been agreed to by the parties;

the Project Mediator shall terminate the mediation by giving written notice to the parties stating the effective date of termination.

GC8.6 BINDING ARBITRATION

- 1) If mediation of the dispute is terminated pursuant to the provisions of GC8.5, "Mediation", and
 - a) the termination of mediation occurs prior to the applicable date set out in paragraph 4) of GC8.6; and
 - b) the disputed issues involve issues of fact or issues of arbitral questions of law or issues of mixed fact and arbitral questions of law;either party, by giving notice in writing to the other party in accordance with GC2.3, "Notices", may require that the dispute be resolved by binding arbitration pursuant to GC8.6.
- 2) A notice referred to in paragraph 1) of GC8.6 shall be given within 10 working days of the date of termination of mediation under GC8.5 Mediation and shall be in accordance with GC2.3, "Notices".
- 3) If no notice is given within the period set out in paragraph 2) of GC8.6, or if the conditions set out in subparagraphs 1)(a) and 1)(b) of GC8.6 are not met, the arbitration provisions set out in GC8.6 do not apply to the dispute.
- 4) Unless otherwise agreed, the arbitration of the dispute shall be held in abeyance until the earlier of
 - a) the date of issuance of a Certificate of Substantial Performance under GC5.5, "Substantial Performance of the Work";

- b) the date the Work is taken out of the Contractor's hands; and
- c) the date of termination of the Contract;

and consolidated with all other such disputes into a single arbitration.

- 5) Arbitral proceedings under this GC8.6 shall be governed by and conducted in accordance with the **Commercial Arbitration Act**, R.S. 1985, c. 17 (2nd Supp.) and the provisions of GC8.11, "Rules for Arbitration of Disputes".
- 6) For the purposes of calculating time under the Rules for Arbitration referred to in paragraph 5) of GC8.6, arbitration proceedings shall commence on the applicable date set out in paragraph 4) of GC8.6.
- 7) Notwithstanding anything else contained in GC8.6, the arbitration provisions in GC8.6 do not apply if the aggregate amount of all claims by the Contractor required to be arbitrated on the applicable date set out in paragraph 4) of GC8.6 is less than \$25,000.

GC8.7 DISPUTES NOT SUBJECT TO ARBITRATION

- 1) Where the arbitration provisions in GC8.6, "Binding Arbitration", do not apply to a dispute as a result of paragraphs 3) or 7) of GC8.6, "Binding Arbitration", either party may take such court action or proceedings as it considers appropriate, including, without limiting the foregoing, all suits that would otherwise have been immediately available to it but for the provisions of these Dispute Resolution Conditions. Subject to the provisions of paragraph 2) of GC8.7, the Contractor shall initiate any such action or proceeding no later than three calendar months after the date that a Certificate of Completion is issued under GC5.6, "Final Completion", and not afterwards, except where it is otherwise provided by law.
- 2) Any action or proceeding resulting from a direction under GC3.13, "Warranty and Rectification of Defects in Work", shall be initiated by the Contractor no later than three calendar months after the expiry of the warranty or guarantee period and not afterwards, except where it is otherwise provided by law.

GC8.8 (2016-05-01) CONFIDENTIALITY

All information exchanged during alternative dispute resolution procedures, by whatever means, shall be without prejudice and shall be treated as confidential by the parties and their representatives, unless otherwise required by law. However, evidence that is independently admissible or discoverable shall not be rendered inadmissible or non-discoverable by virtue of its use during an alternative dispute resolution process.

GC8.9 (2016-05-01) SETTLEMENT

Any agreement to settle all or any part of a dispute, by whatever means, shall be in writing and be signed by the parties or their authorized representatives.

GC8.10 (2016-05-01) RULES FOR MEDIATION OF DISPUTES

GC8.10.1 Interpretation

In these Rules

- 1) “Coordinator” means the person designated by Canada to act as the Dispute Resolution Coordinator.

GC8.10.2 Application

- 1) By mutual agreement, the parties may change or make additions to the Rules.

GC8.10.3 Communication

- 1) Written communications pursuant to these Rules shall be given in accordance with GC2.3 NOTICES.

GC8.10.4 Appointment of Project Mediator

- 1) The parties to the Contract may, by mutual consent, at any time after entry into the Contract, appoint a mediator (the “Project Mediator”) to conduct mediation proceedings in accordance with these Rules for Mediation of Disputes, in regard to any dispute that may arise with regard to the interpretation, application or administration of the Contract. In this case, they shall jointly enter into a contract with the appointed Project Mediator, which contract shall be in a form drafted by the Coordinator and agreed to by the parties.
- 2) If the parties do not appoint a Project Mediator pursuant to paragraph 1) of GC8.8.4, the parties shall appoint a Project Mediator within 17 working days following receipt of a written notice from the Contractor, in accordance with GC2.3 NOTICES, requesting that mediated negotiations be undertaken in accordance with these Rules to assist the parties to reach agreement on any outstanding issues that may be in dispute. Any contract entered into with the appointed Project Mediator shall meet the requirements as set out for the contract described in paragraph 1) of GC8.8.4.
- 3) When mediation is requested by the Contractor pursuant to paragraph 3) of GC8.4 NEGOTIATION, if the parties have previously entered into a contract with a Project Mediator, the parties shall within 2 days send to both the Project Mediator and the Coordinator
 - (a) a copy of the notice requesting negotiation under paragraph 2) of GC8.3 NOTICE OF DISPUTE;
 - (b) a copy of Canada’s written position in relation to the notice, the issues in contention and the relevant provisions of the contract; and
 - (c) a copy of the Contractor’s written request for mediation required under paragraph 3) of GC8.4 NEGOTIATION.
- 4) If the parties have not agreed on a Project Mediator, the parties shall forthwith provide the Coordinator with the written materials referred to in subparagraphs 3)(a), 3)(b) and 3)(c) of GC8.8.4 together with a request that the Coordinator assist in the appointment of a mutually acceptable Project Mediator in accordance with these Rules.
- 5) Within 5 working days following receipt of the request and materials referred to in paragraph 4) of GC8.8.4, the Coordinator shall provide the parties with a list of qualified private sector mediators obtained from an independent and impartial entity, together with instructions to

each party to individually and confidentially select and rank their preferred and fully acceptable choices of mediator in descending order. Each mediator listed shall be impartial and independent of the parties, and shall be an experienced and skilled commercial mediator, preferably with knowledge of the subject matter of the dispute.

- 6) Within 10 working days of receipt of the list referred to in paragraph 5) of GC8.8.4 each party shall comply with the instructions accompanying the list(s) and shall deliver the completed listing to the Coordinator.
- 7) Within 2 working days following receipt of the completed listings, the Coordinator shall select the highest common ranked mediator to act as Project Mediator for the purposes of the contract.
- 8) In the event of a tie, the Coordinator shall consult both parties to re-evaluate their rankings in order to assist the Coordinator in selecting a Project Mediator acceptable to both parties. If the parties cannot agree upon a Project Mediator, the Coordinator shall forthwith provide the parties with a second list of mediators and the procedure shall be repeated.
- 9) If the parties have not previously entered into a contract with a mutually acceptable Project Mediator, the Coordinator shall use reasonable efforts to negotiate a contract with a mutually acceptable Project Mediator on behalf of the parties, which contract shall incorporate or otherwise comply with the provisions of these Rules. If negotiations are unsuccessful, or if for other reason the individual is unwilling or unable to enter into a contract to act as Project Mediator, the Coordinator shall repeat the process with the second-highest common ranked mediator.
- 10) The parties agree that, upon successful completion of the negotiations referred to in paragraph 9) of GC8.8.4, they shall jointly enter into a contract with the selected Project Mediator, which contract shall be in a form drafted by the Coordinator and agreed to by the parties.
- 11) Upon execution of the contract with the Project Mediator referred to in paragraph 10) of GC8.8.4 the Coordinator shall provide the Project Mediator with copies of the documents referred to in paragraph 3) of GC8.8.4.

GC8.10.5 Confidentiality

- 1) Subject to paragraph 2) of GC8.8.5, and unless otherwise agreed in writing by the parties, the Project Mediator, the parties and their counsel or representatives shall keep confidential all matters and documents disclosed during mediation proceedings except where the disclosure is necessary for any implementation of any agreement reached or is required by law.
- 2) Evidence that is independently admissible or discoverable in any arbitral or judicial proceeding shall not be rendered inadmissible or non-discoverable by virtue of its use in mediation proceedings.
- 3) Neither party shall make transcripts, minutes or other records of a mediation conference.
- 4) The personal notes and written opinions of the Project Mediator made in relation to mediation are in the Project Mediator's sole possession and control, are confidential, and may not be used in any subsequent proceeding between the parties or where they are opposed in interest without the express written permission of the parties.

- 5) All information exchanged during mediation procedures, by whatever means, shall be without prejudice and shall be treated as confidential by the parties and their representatives, unless otherwise required by law.

GC8.10.6 Time and Place of Mediation

- 1) The Project Mediator, in consultation with the parties shall set the date, time and place of any mediation conference as soon as possible, bearing in mind that, subject to agreement to the contrary between the parties, only 10 working days are available within which to attempt to settle the dispute.

GC8.10.7 Representation

- 1) Representatives of the parties may be accompanied at the mediation conference by legal counsel or any other person.
- 2) If the Project Mediator is a lawyer, the Project Mediator shall not provide legal advice to a party during the course of the mediation conference, but may recommend that a party obtain independent legal advice before finalizing a settlement agreement.

GC8.10.8 Procedure

- 1) The parties agree to an exchange of all facts, information and documents upon which they intend to rely in any oral or written presentation during the mediation. This exchange shall be completed no later than 2 working days prior to the date set for a mediation conference.
- 2) The Project Mediator shall be free to meet with the parties individually during a mediation conference if the Project Mediator is of the opinion that this may improve the chances of a mediated settlement, and either party may request such an individual meeting at any time.
- 3) The parties may agree to extend the 10 working days available for settlement of the dispute through mediation, and the Project Mediator shall record that agreement in writing.

GC8.10.9 Settlement Agreement

- 1) The parties shall record in writing any settlement agreement reached, with sufficient detail to ensure a clear understanding of
 - (a) the issues resolved;
 - (b) any obligations assumed by each party including criteria to determine if and when these obligations have been met; and
 - (c) the consequences of failure to comply with the agreement reached.
- 2) The parties agree to carry out the terms of a settlement agreement as soon as possible and, in any event, within any time periods specified in the agreement.

GC8.10.10 Termination of Mediation

- 1) Either party may withdraw from mediation at any time without reason and, in that event, the Project Mediator shall give each party a written notice terminating the mediation and establishing the effective date of termination.
- 2) If, in the opinion of the Project Mediator, either party fails to mediate in good faith or fails to comply with the terms of these Rules, or if the Project Mediator, at any time during mediation, is of the opinion that further negotiations will fail to resolve the issues outstanding, the Project Mediator may terminate the negotiations by providing the parties with a written notice of termination, stating therein the Project Mediator's reasons for the termination, and the effective date of termination.
- 3) If a dispute has not been resolved within 10 working days or such other longer period as may have been agreed to by the parties, the Project Mediator shall terminate the mediation by giving written notice to the parties stating the effective date of termination.

GC8.10.11 Costs

- 1) The parties agree that they will each be responsible for the costs of their own representatives and advisors and associated travel and living expenses. Fees and expenses of the Project Mediator and all administrative costs of mediation, such as the cost of the meeting room(s), if any, shall be borne equally by the parties.

GC8.10.12 Subsequent Proceedings

- 1) The parties shall not rely on or introduce as evidence in any arbitral or judicial proceeding, whether or not such proceeding relates to the subject matter of mediation,
 - (a) any documents of other parties that are not otherwise producible in those proceedings;
 - (b) any views expressed or suggestions made by any party in respect of a possible settlement of issues;
 - (c) any admission made by any party in the course of mediation unless otherwise stipulated by the admitting party; and
 - (d) the fact that any party has indicated a willingness to make or accept a proposal or recommendation for settlement.
- 2) The Project Mediator shall neither represent nor testify on behalf of either of the parties in any subsequent investigation, action or proceeding relating to the issues in mediation proceedings.
- 3) The Project Mediator shall not be subpoenaed to give evidence relating to
 - (a) the Project Mediator's role in mediation; or
 - (b) the matters or issues in mediation;**

in any subsequent investigation, action or proceeding and the parties agree to vigorously oppose any effort to have the Mediator so subpoenaed.

GC9 CONTRACT SECURITY

GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY

GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY

GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY

- 1) The Contractor shall, at the Contractor's expense and within 14 days after the date that the Contractor receives notice that the Contractor's bid was accepted by Canada, obtain and deliver Contract Security to Canada in one of the forms prescribed in GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY.
- 2) If the whole or a part of the Contract Security provided is in the form of a security deposit, it shall be held and disposed of in accordance with GC5.13 RETURN OF SECURITY DEPOSIT and GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN.
- 3) If a part of the Contract Security provided is in the form of a labour and material payment bond, the Contractor shall post a copy of that bond at the site of the Work.
- 4) It is a condition precedent to the release of the first progress payment that the Contractor has provided the Contract Security as specified herein.

GC9.2 (2016-05-01) TYPES AND AMOUNTS OF CONTRACT SECURITY

- 1) The Contractor shall deliver to Canada either (a) or (b).
 - a) A performance bond and a labour and material payment bond each in an amount that is equal to not less than 50 percent of the Contract Amount (excluding applicable tax(es)).
 - b) A security deposit or an irrevocable standby letter of credit in an amount that is equal to not less than 20 percent of the Contract Amount (excluding applicable tax(es)).
- 2) A performance bond and a labour and material payment bond referred to in paragraph 1) of GC9.2 shall be in a form and be issued by a bonding or surety company that is approved by Canada.
 - (a) The approved form for the performance bond is displayed at the following Website: <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appS>
 - (b) The approved form for the labour and material payment bond is displayed at the following website: <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appS>; and
 - (c) The list of approved bonding or surety companies is displayed at the following Website: <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appl>
- 3) A security deposit referred to in subparagraph 1)(b) of GC9.2 shall be in the form of
 - a. a bill of exchange, bank draft or money order made payable to the Receiver General for Canada and certified by an approved financial institution or drawn by an approved financial institution on itself; or

- b. bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada.
- 4) For the purposes of subparagraph 3)(a) of GC9.2
- a) a bill of exchange is an unconditional order in writing signed by the Contractor and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order of, the Receiver General for Canada;
 - b) if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 4)(c) of GC9.2, either by letter or by a stamped certification on the bill of exchange, bank draft or money; and
 - c) An approved financial institution is
 - I.a corporation or institution that is a member of the Canadian Payments Association as defined in the [Canadian Payments Act](#);
 - II.a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the "Autorité des marchés financiers";
 - III.a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;
 - IV.a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the [Income Tax Act](#); or
 - V.Canada Post Corporation.
- 5) Bonds referred to in subparagraph 3)(b) of GC9.2 shall be provided on the basis of their market value current at the date of the Contract, and shall be
- a) made payable to bearer; or
 - b) accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - c) registered as to principal, or as to principal and interest, in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations.
- 6) An irrevocable standby letter of credit referred to in subparagraph 1)(b) of GC9.2 shall
- a) be an arrangement, however named or described, whereby a financial institution (the "Issuer") acting at the request and on the instructions of a customer (the "Applicant") or on its own behalf,
 - I.is to make a payment to, or to the order of, Canada as the beneficiary;
 - II.is to accept and pay bills of exchange drawn by Canada;

III. authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or

IV. authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;

- b) state the face amount that may be drawn against it;
- c) state its expiry date;
- d) provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by Canada;
- e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
- f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice (UCP) for Documentary Credits, 2007 Revision, ICC Publication No. 600. Pursuant to the ICC UCP, a credit is irrevocable even if there is no indication to that effect; and
- g) be issued or confirmed, in either official language in a format left to the discretion of the issuer or confirmer, by an approved financial institution on its letterhead.

GC10 INSURANCE

GC10.1 INSURANCE CONTRACTS

GC10.2 INSURANCE PROCEEDS

GC10.1 INSURANCE CONTRACTS

- 1) The contractor shall, at the contractor's expense, obtain and maintain insurance contracts in respect of the work and shall provide evidence thereof to Canada in accordance with the requirements of the INSURANCE TERMS.
- 2) The insurance contracts referred to in paragraph 1) of GC10.1 shall
 - (a) be in a form, of the nature, in the amounts, for the periods and containing the terms and conditions specified in INSURANCE TERMS; and
 - (b) provide for the payment of claims under such insurance contracts in accordance with GC10.2 INSURANCE PROCEEDS.

GC10.2 INSURANCE PROCEEDS

- 1) In the case of a claim payable under a Builders Risk/Installation (All Risks) insurance contract maintained by the contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid directly to Canada, and
 - (a) the monies so paid shall be held by Canada for the purposes of the contract, or
 - (b) if Canada elects, shall be retained by Canada, in which event they vest in Canada absolutely.
- 2) In the case of a claim payable under a General Liability insurance contract maintained by the contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid by the insurer directly to the claimant.
- 3) If an election is made pursuant to paragraph 1) of GC10.2, Canada may cause an audit to be made of the accounts of the contractor and of Canada in respect of the part of the work that was lost, damaged or destroyed for the purpose of establishing the difference, if any, between
 - (a) the aggregate of the amount of the loss or damage suffered or sustained by Canada, including any costs incurred in respect of the clearing and cleaning of the work and its site and any other amount that is payable by the contractor to Canada under the contract, minus any monies retained pursuant to subparagraph 1)(b) of GC10.2; and
 - (b) the aggregate of the amounts payable by Canada to the contractor pursuant to the contract up to the date of the loss or damage.
- 4) A difference that is established pursuant to paragraph 3) of GC10.2 shall be paid forthwith by the party who is determined by the audit to be the debtor to the party who is determined by the audit to be the creditor.

- 5) When payment of a deficiency has been made pursuant to paragraph 4) of GC10.2, all rights and obligations of Canada and the contractor under the contract shall, with respect only to the part of the work that was the subject of the audit referred to in paragraph 3) of GC10.2, be deemed to have been expended and discharged.
- 6) If an election is not made pursuant to subparagraph 1)(b) of GC10.2, the contractor shall, subject to paragraph 7) of GC10.2, clear and clean the work and its site and restore and replace the part of the work that was lost, damaged or destroyed at the contractor's expense as if that part of the work had not yet been performed.
- 7) When the contractor clears and cleans the work and its site and restores and replaces the work referred to in paragraph 6) of GC10.2, Canada shall pay the contractor out of the monies referred to in paragraph 1) of GC10.2 so far as they will thereunto extend.
- 8) Subject to paragraph 7) of GC10.2, payment by Canada pursuant to paragraph 7) of GC10.2 shall be made in accordance with the contract but the amount of each payment shall be 100 percent of the amount claimed notwithstanding subparagraphs 3)(a) and 3)(b) of GC5.4 PROGRESS PAYMENT.



INSURANCE TERMS

- IN1 GENERAL
 - IN1.1 Worker's Compensation
 - IN1.2 Indemnification
 - IN1.3 Proof of Insurance
 - IN1.4 Insured
 - IN1.5 Payment of Deductible

- IN2 COMMERCIAL GENERAL LIABILITY
 - IN2.1 Scope of Policy
 - IN2.2 Period of Insurance

- IN3 AUTOMOBILE INSURANCE
 - IN3.1 Scope of Policy

- IN4 BUILDER'S RISK / INSTALLATION FLOATER
 - IN4.1 Scope of Policy
 - IN4.2 Amount of Insurance
 - IN4.3 Period of Insurance
 - IN4.4 Insurance Proceeds

IN1 GENERAL

IN1.1 Worker's Compensation

- 1) The Contractor shall provide and maintain Worker's Compensation Insurance in accordance with the legal requirements of the Province or Territory where the work is being carried out.

IN1.2 Indemnification

- 1) The insurance required by the provisions of these Insurance Terms shall in no way limit the Contractor's responsibility under the Indemnification clause of the General Conditions of the contract. Any additional coverage the Contractor may deem necessary to fulfill his obligations under the aforesaid clause shall be at his own discretion and expense.

IN1.3 Proof of Insurance

- 1) Before commencement of the Work, and within thirty (30) days after acceptance of its bid, the Contractor shall deposit with Canada a CERTIFICATE OF INSURANCE (form AAFC / AAC5314) available upon request.
- 2) In the event that the Contractor already possesses an insurance certificate clearly demonstrating that their insurance coverage meets IN2.1 Scope of Policy provisions, then the Contractor may deposit an original copy of this insurance certificate.
- 3) Upon request by Canada, the Contractor shall provide originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the provisions contained herein.

IN1.4 Insured

- 1) Each policy shall insure the Contractor and shall include Her Majesty the Queen in right of Canada, represented by the Minister of Agriculture & Agri-Food Canada as an additional Insured, with respect to liability arising out of the operations of the contractor with regard to the work.

INSURANCE TERMS (Continued)

IN1.5 Payment of Deductible

- 1) The payment of monies up to the deductible amount made in satisfaction of a claim shall be borne by the Contractor.

IN2 COMMERCIAL GENERAL LIABILITY

IN2.1 Scope of Policy

- 1) The insurance coverage provided shall not be less than that provided by IBC Form 2100, as amended from time to time, and shall have:
 - (a) an Each Occurrence Limit of not less than \$5,000,000.00 ;
 - (b) a Products/Completed Operations Aggregate Limit of not less than \$5,000,000.00 ; and
 - (c) a General Aggregate Limit of not less than \$10,000,000.00 per policy year, if the policy is subject to such a limit.
- 2) The policy shall either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:
 - (a) Blasting.
 - (b) Pile driving and caisson work.
 - (c) Underpinning.
 - (d) Removal or weakening of support of any building or land whether such support be natural or otherwise if the work is performed by the insured contractor.
 - (e) Asbestos.
 - (f) Non-owed Automobile Policy.

IN2.2 Period of Insurance

- 1) Unless otherwise directed in writing by Canada, or, otherwise stipulated elsewhere herein, the policy required herein shall be in force and be maintained from the date of contract award until the day of issue of the Certificate of Completion except that the coverage for Completed Operations Liability shall, in any event, be maintained for a period of at least six (6) years beyond the date of the CERTIFICATE OF SUBSTANTIAL PERFORMANCE.

IN3 AUTOMOBILE INSURANCE

IN3.1 Scope of Policy

- 1) Automobile Liability Insurance in respect of licensed vehicles shall have limits of not less than one million dollars inclusive per occurrence for bodily injury, death, and damage to property.

INSURANCE TERMS (Continued)

IN4 BUILDER'S RISK / INSTALLATION FLOATER

IN4.1 Scope of Policy

- 1) The insurance coverage provided by a Builder's Risk policy or an Installation Floater policy shall not be less than that provided by IBC Forms 4042 and 4047, as amended from time to time.
- 2) The policy shall permit use and occupancy of the project, or any part thereof, where such use and occupancy is for the purposes for which the project is intended upon completion.
- 3) The policy may exclude or be endorsed to exclude coverage for loss or damage caused by any of the following:
 - (a) Asbestos.
 - (b) Fungi or spores.
 - (c) Cyber.
 - (d) Terrorism.

IN4.2 Amount of Insurance

- 1) The amount of insurance shall not be less than the sum of the contract value plus the declared value (if any) set forth in the contract documents of all material and equipment supplied by Canada at the site of the project to be incorporated into and form part of the finished Work. If the value of the Work is changed, the policy shall be changed to reflect the revised contract value.

IN4.3 Period of Insurance

- 1) Unless otherwise directed in writing by Canada, or, stipulated elsewhere herein, the policy required herein shall be in force and be maintained from prior to the commencement of work until the day of issue of the CERTIFICATE OF SUBSTANTIAL PERFORMANCE.

IN4.4 Insurance Proceeds

- 1) The policy shall provide that the proceeds thereof are payable to Her Majesty or as Canada may direct in accordance with GC 10.2 Insurance Proceeds.
- 2) The Contractor shall, without delay, do such things and execute such documents as are necessary to effect payment of the proceeds.

BID AND ACCEPTANCE FORM

CONSTRUCTION CONTRACT - MAJOR WORKS

BA01 IDENTIFICATION					
Description of the Work ROOF REPLACEMENT, BUILDING 18, CEF, OTTAWA					
Solicitation Number 21-1094			File / Project Number MCE21 Bldg 18		
BA02 BUSINESS NAME AND ADDRESS OF BIDDER					
Name					
Address					
Unit/Suite/Apt.	Street number	Number suffix	Street name	Street type	Street direction
PO Box or Route Number			Municipality (City, Town, etc.)		Province
Postal code					
Phone number		Fax number		Email address	
BA03 THE OFFER					
1) The Bidder offers to Canada as represented by the Minister of Agriculture and Agri-food Canada to perform and complete the Work for the above named project in accordance with the Bid Documents for the Total Bid Amount of: \$ _____ excluding Applicable Taxes (GST/HST/QST). (to be expressed in numbers only)					
BA04 BID VALIDITY PERIOD					
1) The bid shall not be withdrawn for a period of <u>60</u> days following the date of solicitation closing.					
BA05 APPENDICES					
1) The following appendices are included in this Bid and Acceptance Form: <input checked="" type="checkbox"/> No appendices					
BA06 ACCEPTANCE AND CONTRACT					
1) Upon acceptance of the Bidder's offer by Canada, a binding Contract shall be formed between Canada and the resulting Contractor. The documents forming the Contract shall be the contract documents referred to in SC01 CONTRACT DOCUMENTS.					
BA07 CONSTRUCTION TIME					
1) The Contractor shall perform and complete the Work <u>on or before 2022-01-10</u>					
BA08 BID SECURITY					
1) The Bidder shall enclose bid security with its bid in accordance with GI07 BID SECURITY REQUIREMENTS.					
2) If a security deposit is furnished as bid security, it shall be forfeited in the event that the bid is accepted by Canada and the Contractor fails to provide Contract Security in accordance with GC9 CONTRACT SECURITY, provided that Canada may, if it is in the public interest, waive the right of Canada to forfeiture any or all of the security deposit.					

BA09 SIGNATURE

Name and title of person authorized to sign on behalf of Bidder (type or print)	Name
	Title
	Signature _____ Date _____
	Name
	Title
	Signature _____ Date _____

BA10 INTEGRITY PROVISIONS - LIST OF NAMES

If the required list of names has not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to provide the names within the time frame specified will render the bid non-responsive. Providing the required names is a mandatory requirement for contract award.

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder.

Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s).

Bidders bidding as societies, firms or partnerships do not need to provide lists of names.



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada

SPECIFICATIONS & DAWINGS

#21-1094

FOR

**ROOF REPLACEMENT
BUILDING 18**

**CENTRAL EXPERIMENTAL FARM (CEF)
Agriculture and Agri-Food Canada (AAFC)
960 Carling Ave.
Ottawa, ON K1A 0C6**

Division	Section	Title	Pages
Division 01	General Requirements		
	01 00 11	General Requirements.....	5
	01 35 29.06	Health and Safety Requirements.....	4
Division 05	Metals		
	05 52 16	Modular Workplace Guardrail System	4
Division 06	Wood, Plastics and Composites		
	06 10 53	Miscellaneous Rough Carpentry.....	4
Division 07	Thermal and Moisture Protection		
	07 52 00	Modified Bituminous Membrane Roofing.....	22
	07 62 00	Sheet Metal Flashing and Trim.....	5
	07 92 00	Joint Sealants	4
Division 22	Plumbing		
	22 05 11	Plumbing and Drainage	5

Drawings

- A1 – Roof Plan
- A2 – Details
- A3 – Details
- A4 – Details
- A5 – Details

END OF SECTION

Part 1 General

1.1 GENERAL DESCRIPTION OF THE WORK

- .1 Work to be carried out under this Contract, Roof Replacement, Building 18 at the Central Experimental Farm, Ottawa, Ontario.
- .2 Provide the necessary labour and materials to complete the removal of the existing roofing systems, existing curbs, sheet metal flashings and membrane down to the existing structural deck and install new roofing system as specified herein.
- .3 The new roof systems and roof related accessories shall be as specified and indicated on the drawings.
- .4 Supply and installation of related rough carpentry at parapets and curbs.
- .5 Supply and install all sheet metal caps, counter flashings, scuppers, torch stops, fascia and all other roof related metal flashings required to complete roof installation.
- .6 Supply and installation of all sealants required to seal the transition of membrane and related metal detailing and the termination of sheet metal and non-membrane surfaces.
- .7 Supply and installation of new roof drains and new piping as detailed and indicated on the drawings. New drains/piping shall be at new and/or in the same locations and shall include all required clamps, hangers, insulation, vapour wrap and all other items required to complete the new drain installation.
- .8 Supply and installation of required access scaffolding, hording, fencing and overhead protection as required to comply with the Ministry of Labour Health and Safety requirements.

1.2 DEFINITIONS

- .1 “CONSTRUCTOR” and “CONTRACTOR” are synonymous.

1.3 OTHER CONTRACTORS

- .1 Other Contractors, Sub-Contractors and the Departmental Representative’s own forces, may be performing work on the site at the same time as the Work is being done under this Contract. The successful bidder shall provide all reasonable co-operation and collaboration with these other forces to ensure a timely completion of the work, taking into consideration and without undermining its own role as the “Constructor”.

1.4 USE OF THE SITE

- .1 Carry out the Work so as to have the least possible interference and disturbance to the normal use of the premises. The successful bidder is expected to include in the bid an allowance for the performance of off-hours work should it be required to conform with the above.
- .2 Maintain services to existing building and provide for personnel and vehicle access.

- .3 Restrict construction access to and from site to approved location. Do not allow construction traffic to block entrances or exits for any reason.
- .4 Co-ordinate any interference with Departmental Representative's operation in this area and abide by Departmental Representative's direction in this regard. In cases of conflicting requirements, Departmental Representative's operation takes precedence but all reasonable effort to accommodate Contractor's needs will be made.

1.5 EXISTING SERVICES

- .1 Before commencing work, establish location and extent of service lines in area of Work and notify Departmental Representative of findings.
- .2 Remove abandoned service lines within 2.4 m of structures. Cap or otherwise seal lines at cut-off points as directed by Departmental Representative.
- .3 Services are to be left operational unless otherwise authorized by Departmental Representative.
- .4 Unless otherwise specified, the Contractor will be responsible for disconnection, relocation, re-installation and extending all services required to facilitate work under this Contract. Co-ordinate work with the Departmental Representative and provide minimum 48 hours notification if services are to be interrupted.

1.6 CUTTING AND PATCHING

- .1 Generally patch and "make good" any and all surfaces cut, damaged, exposed, or disturbed to comply with any appropriate statutory requirements and to the Departmental Representative's acceptance.

1.7 PROTECTION OF PROPERTY

- .1 Protect surrounding private and public property from damage during the performance of the Work.
- .2 Be responsible for damage incurred.

1.8 PRECONSTRUCTION CONDITIONS

- .1 Prior to commencing mobilization, the Contractor shall record preconstruction conditions by photographing all items that could potentially be claimed by the Departmental Representative or Departmental Representative as damaged during the course of the work.
- .2 These items should include adjacent wall areas, landscaping, pavement, windows, paint finishes and any roof top equipment on or adjacent to the subject roof.
- .3 In the event that the Contractor is permitted to store materials or equipment on adjacent roofs or use adjacent roofs to access the subject roofs, these areas shall also be reviewed for preconstruction damage and photographed.
- .4 Provide Departmental Representative and Departmental Representative with photographic record of preconstruction photographs a minimum of 24 hours prior to commencing mobilization.

- .5 All such damages observed during final or post construction review that cannot be verified as pre-existing, are potentially considered the Contractor's responsibility to rectify.

1.9 FIRE PROTECTION

- .1 Provide and maintain temporary fire protection equipment during the performance of the Work as required by insurance companies and governing codes, regulations and by-laws having jurisdiction.
- .2 Work requiring the generation of open flames (welding, soldering, etc...) cannot be performed until an Departmental Representative's Permit has been issued. It is the responsibility of the successful bidder to apply for here said permit.
- .3 Open fires and burning of rubbish are not permitted on site.

1.10 OCCUPATIONAL HEALTH AND SAFETY

- .1 Follow the Ontario Provincial Occupational Health and Safety Act and Regulations for Construction Projects. For the purposes of the act, the person or company contracted to carry out the work shall be deemed the "**Constructor**".
- .2 Hazardous materials, not identified by the Departmental Representative, may be encountered at the worksite. Use all necessary precautions when handling such material. It is possible that asbestos may exist in some form and if encountered the Contractor is responsible to notify the Departmental Representative and to follow Ontario Ministry of Labour regulations governing the handling of asbestos in the workplace.
- .3 The Departmental Representative may cause those who do not comply with the O.H.S.A. and Regulations to be escorted from the site.
- .4 Temporary overhead protection will be required at ground street level sidewalks, where pedestrians are walking. All entrances shall have overhead protection. Additional protection will also be required to prevent material from falling to the street from overhead scaffold platforms.

1.11 PROTECTION OF BUILDING FINISHES AND EQUIPMENT

- .1 Prevent movement, settlement, or other damage to other adjacent structures, utilities, and parts of building to remain in place. Provide bracing and shoring if required.
- .2 Keep noise, dust, and inconvenience to occupants to a minimum.
- .3 Protect building systems, services and equipment. Protect all furnishings within work area with (6 mil) polyethylene film during construction. Remove film during non-construction hours and leave premises in clean, unencumbered and safe manner for normal daytime function.
- .4 Provide temporary dust tight screens, partitions, covers, railings, barricades, supports and/or other protection as required. Protect workers, finished areas of work and public.

1.12 PARKING

- .1 Parking is available on site.

- .2 All vehicles must be parked in designated parking areas (except for reasonable loading and unloading of equipment and/or materials to a local entrance).

1.13 SIGNS AND ADVERTISEMENTS

- .1 No signs or advertisements of any description other than notices regarding safety shall be displayed at the Work Site without permission of the Departmental Representative.
- .2 Upon completion of the Work, all signs shall be removed except those specifically directed by the Departmental Representative to remain.

1.14 CLEAN-UP

- .1 Maintain the work area in tidy condition, free from the accumulation of waste products and debris.
- .2 Remove waste and materials regularly so as to maintain a tidy work site. Do not dispose of any waste in the Departmental Representative's facilities unless specifically directed to do so by authorised personnel.
- .3 Store materials in areas specially designated by the Departmental Representative. Dispose of this debris in a legal manner so as to avoid causing a hazard to occupants and visitors on site.

1.15 MATCHING

- .1 Where new work occurs in or adjacent to existing work, it is the intent that colours and textures of visible finishes within these areas shall be matched to the satisfaction of the Departmental Representative.

1.16 PERMITS, FEES, CERTIFICATES

- .1 Obtain and pay for all required permits.
- .2 Arrange and pay for all inspection certificates required by Authorities having jurisdiction, (i.e., Electrical Safety Authority Certificate). Provide the Departmental Representative with copies of these certificates upon completion.

1.17 DISRUPTION OF SERVICES

- .1 The Contractor is responsible to provide adequate written notice to the Departmental Representative of any interruption of services (i.e., mechanical, electrical etc.) for the connection of new services or the alteration of existing.
- .2 The Contractor is expected to co-operate reasonably with the Departmental Representative in the scheduling of service interruptions.

1.18 SANITARY FACILITIES

- .1 Temporary sanitary facilities will be provided by the Constructor in compliance with the Occupational Health and Safety Act and Regulations for Construction Projects.

1.19 POWER

- .1 Contractor to supply their own power.

1.20 WATER SUPPLY

- .1 Water supply is available at no cost. Connection and disconnection will be at Contractor's expense and liability.

1.21 TEMPORARY FACILITIES

- .1 Any temporary facilities provided at the site by the Contractor must be removed upon completion of the work and the area used must be returned to the original condition.

1.22 DOCUMENTS REQUIRED

- .1 Maintain at the job site, one copy each of the following:
 - .1 Original Plans and Specifications and completed Form of Tender.
 - .2 Building Department stamped drawings if required.
 - .3 Any changes to Drawings or Details.
 - .4 Shop Drawings and any changes.
 - .5 Addenda.
 - .6 Change Orders.
 - .7 Site Instructions.
 - .8 Contractor's Safety Policy.
 - .9 Safety Data Sheets.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Province of Ontario
 - .1 Occupational Health and Safety Act Projects, R.S.O. 1990, c.0.1, as amended and Regulations for Construction O. Reg. 213/91 as amended.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
- .2 Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to authority having jurisdiction, daily / weekly, Departmental Representative.
- .3 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .4 Submit copies of incident and accident reports.
- .5 Submit WHMIS 2015 SDS - Safety Data Sheets.
- .6 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 21 "CONSTRUCTOR" and "CONTRACTOR" are synonymous.
- .7 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 2 days after receipt of comments from Departmental Representative.
- .8 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .9 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.

1.3 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.

- .2 Contractor shall be responsible and assume the Principal Contractor role for each work zone location and not the entire complex. Contractor shall provide a written acknowledgement of this responsibility with 3 weeks of contract award. Contractor to submit written acknowledgement to WSIB along with Notice of Project.
- .3 Contractor shall agree to install proper site separation and identification in order to maintain time and space at all times throughout life of project.

1.4 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project.

1.5 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.

1.6 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.7 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Contractor will be responsible and assume the role Constructor as described in the Ontario Occupational Health and Safety Act and Regulations for Construction Projects.
- .3 Contractor shall be the Principal Contractor as described in the Ontario Health and Safety Act for the Construction for only their scope and areas of work as defined and described in this project specification.
- .4 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.8 COMPLIANCE REQUIREMENTS

- .1 Comply with Ontario Occupational Health and Safety Act, R.S.O. 1990, c. 0.1 and Ontario Regulations for Construction Projects, O. Reg. 213/91.

- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.9 UNFORSEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.
- .2 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, advise Health and Safety co-ordinator / Safety Officer and follow procedures in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.10 HEALTH AND SAFETY CO-ORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
 - .1 Have site-related working experience specific to activities associated with roofing operations.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
 - .5 Be on site during execution of Work and report directly to and be under direction of Registered Occupational Hygienist / Certified Industrial Hygienist / site supervisor.

1.11 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Departmental Representative.

1.12 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.13 POWDER ACTUATED DEVICES

- .1 Use powder actuated devices only after receipt of written permission from Departmental Representative.

1.14 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

- .1 American National Standard / American Society of Safety Engineers (ANSI/ASSE):
 - .1 ANSI/ASSE A1264.1-2007 Safety Requirements for Workplace Walking/Working Surfaces and their Access; Workplace, Floor, Wall and Roof Openings; Stairs and Guardrail Systems.
- .2 ASTM International
 - .1 A27/A27M-13 Standard Specification for Steel Castings, Carbon, for General Application
 - .2 ASTM A 47-2014, Standard Specification for Ferritic Malleable Iron Castings.
 - .3 ASTM A500-13 Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
 - .4 ASTM B 221M-13, Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).
 - .5 ASTM B429//B241M-10e1, Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.
 - .6 ASTM E935-13e1, Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings.
- .3 National Research Council Canada (NRC)
 - .1 National Building Code of Canada 2015 (NBC).

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with the following:
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for guardrails and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit manufacturer's installation instructions with project specific annotations to suit project conditions.
- .3 Shop Drawings:
 - .1 Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.
 - .2 Indicate installation of guardrails including but not limited to plans, elevations, sections, details of components, anchor details and clearances to adjacent assemblies. Indicate critical field dimensions and conflicts.
 - .3 Indicate installation conditions at obstructions or at junction with adjacent construction as necessary to provide continuity of protection.
- .4 Parts List:

- .1 Submit parts list indicating manufacturer's name, part number and name, quantity required for complete installation.
- .5 Certifications:
 - .1 Submit certification that modular guardrail system has been tested in accordance with ASTM E935, that it conforms to requirements of ANSI/ASSE A1264.1 and to workplace safety requirements of authority having jurisdiction.
- .6 Modular guardrail system shall be the standard product of a manufacturer regularly engaged in the engineering design and manufacture of such products. System shall consist of components that have been in satisfactory use for at least 2 years prior to date of tender issue.

1.3 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements:
 - .1 Deliver products to site in original factory packaging, labelled with manufacturer's name and address, and list of contents of each package.
 - .2 Inspect products for any damage or deformation. Remove damaged products from site and replace with matching undamaged products.
 - .3 Check package contents list against submitted parts list to ensure all components necessary for a complete installation have been delivered.
- .3 Storage and Handling Requirements:
 - .1 Store material in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect guardrail components from all damage. Protect finish from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

Part 2 Products

2.1 MANUFACTURED UNITS

- .1 Acceptable manufacturer and product list:
 - .1 KeeGuard, by Kee Safety Inc.
 - .2 RoofBarrier, by Skyline Group.

2.2 DESIGN CRITERIA

- .1 Installed guardrail assembly and anchorage shall conform to ANSI/ASSE A1264.1, structural requirements of NBC 2015 and workplace safety requirements of authority having jurisdiction.

- .1 In case of conflicting requirements, the more stringent requirement shall apply.

2.3 MODULAR STEEL GUARDRAIL SYSTEM

- .1 Refer to drawings for proposed design concept.
- .2 Rails: 32 or 38 mm diameter structural steel to ASTM A53.
- .3 Posts: 32 or 38 mm diameter structural steel tubing to ASTM A500 curved profile as indicated.
- .4 Fittings: elbows, T-shapes, couplings, machined steel castings to ASTM A27 with locking stainless steel set screws.
- .5 Non-Penetrating (Ballasted) Installation: weighted base mounting plate with non-abrasive non-slip resilient pad, with integral receivers to secure and fasten posts.
- .6 Curb Mount Installation: pre-fabricated bracket component, with integral receivers to secure posts. Brackets shall come complete with anchors to suit installation conditions in accordance with accepted manufacturer's shop drawings.
- .7 Exposed Fasteners: flush countersunk screws or bolts; consistent with design of railing.
- .8 Splice Connectors: collar with locking set screws, galvanized steel.
- .9 Galvanizing: to ASTM A153, provide minimum 600 g/sq m galvanized coating.
 - .1 Touch-Up Primer for Galvanized Surfaces: SPCC 20 Type I Inorganic zinc rich.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for handrail installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Consultant.
 - .2 Inform Consultant of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied [and after receipt of written approval to proceed from Consultant.

3.2 INSTALLATION

- .1 Assemble and install modular guardrail system in accordance with manufacturer's instructions, accepted shop drawings and as necessary to provide continuity of protection.
- .2 Install components plumb and level, in proper alignment with adjacent assemblies.
- .3 Ensure guardrails extend beyond posts as required to leave no more than 100 mm gap to adjacent walls.
- .4 At non-penetrating or freestanding guardrail, set posts into weighted base plates and secure.
- .5 At curb mount guardrail, set mounting bracket in roof mastic and secure to skylight curb as shown on the drawings.
- .6 Conceal bolts and screws whenever possible.
- .7 Assemble with fittings, spigots, sleeves and set-screws to produce secure, vibration-resistant installation.

3.3 CLEANING

- .1 Progress Cleaning:
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

3.4 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by hand rail installation.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 07 52 00 – Modified Bituminous Membrane Roofing.
- .2 Section 07 62 00 – Sheet Metal Flashing and Trim.
- .3 Section 07 92 00 – Joint Sealants.
- .4 Section 22 05 11 – Plumbing and Drainage.

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM A653/A653M-19, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 CSA International
 - .1 CSA A123.22-08 (R2018) - Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
 - .2 CSA O141-05 (R2019), Softwood Lumber.
 - .3 CSA O151-17, Canadian Softwood Plywood.
- .3 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber 2017.
- .4 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC S702.1-2014, Standard for Mineral Fibre Thermal Insulation for Buildings.
 - .2 CAN/ULC S702.2-15, Standard for Mineral Fibre Thermal Insulation for Buildings, Part 2: Application.
 - .3 CAN/ULC S705.1-15, Standard for Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density, Material Specification.
 - .4 CAN/ULC S705.2-05, Standard for Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density, Application.

1.3 QUALITY ASSURANCE

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood identification: by grade mark in accordance with applicable CSA Standards.

1.4 PRECAUTIONS

- .1 Provide temporary protection, to the satisfaction of the Departmental Representative, to render all wood blocking watertight, if for any reason

permanent membrane protection cannot be provided within the same day. Ensure the base of any curbs are temporarily sealed to prevent water from entering below the curb assembly, or behind sheathing, should the roof assembly not be completed on the same day as the carpentry work.

1.5 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section with manufacturer's written instructions.
- .2 Delivery and acceptance requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and handling requirements:
 - .1 Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store materials off ground with moisture barrier at both ground level and as a cover forming a well-ventilated enclosure, with drainage to prevent standing water.
 - .3 Replace defective or damaged materials with new.

Part 2 Products

2.1 LUMBER MATERIAL

- .1 Lumber: Unless specified otherwise, softwood, S4S, moisture content 19% or less in accordance with following standards:
 - .1 CSA O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
- .2 Furring, blocking, nailing strips, grounds, rough bucks, curbs, fascia backing and sleepers:
 - .1 S2S is acceptable for all surfaces.
 - .2 Board sizes: "Standard" or better grade.
 - .3 Dimension sizes: "Standard" light framing or better grade.
 - .4 Post and timbers sizes: "Standard" or better grade.

2.2 PANEL MATERIALS

- .1 Canadian softwood plywood (CSP): to CSA O151.
 - .1 Urea-formaldehyde free.

2.3 FASTENERS

- .1 Wood to wood fasteners: Wood screw #12 or as indicated, galvanized flat head, of sufficient length to completely penetrate through base minimum 25 mm.

- .2 Plywood to concrete, brick or hollow masonry fasteners: 6 mm diameter screws. Length to provide minimum 32 mm and maximum 40 mm embedment into substrate as required. Type to be approved subject to results of pull tests.
- .3 Exposed fasteners for metal to wood or masonry: Use #10 cadmium plated hex screws with neoprene and steel washers. Minimum length 38 mm. Use lead shields, as required for anchoring. Colour of screw head to meet approval of Departmental Representative.
- .4 Nails, spikes and staples: To CSA B111.

2.4 ACCESSORIES

- .1 Metal closure: 0.56 mm (26 ga.) galvanized steel unless otherwise shown or specified.
- .2 Self-adhered membrane: To CSA A123.22, self-adhering membrane consisting of SBS rubberized asphalt compound laminated to a polyethylene film. Minimum thickness 1 mm.
- .3 Spray-in-place polyurethane foam insulation: Thickness as shown or specified to CAN/ULC S705.1 Materials and CAN/ULC S705.2 Application.
- .4 Semi-rigid insulation: semi-rigid mineral wool, rockwool, or slagwool boards, to CAN/ULC S702.2.

2.5 FINISHES

- .1 Galvanizing: To ASTM A653/A653M, use galvanized fasteners for all work.
- .2 Interior paint: 2 coats interior acrylic latex, colour to match existing, eggshell.

Part 3 Execution

3.1 GENERAL INSTALLATION

- .1 Extend air/vapour barrier seals up vertical surfaces and curbs and onto the deck as shown on the Drawings, to provide continuity.
- .2 Slope the top of all wood blocking at the roof perimeter in towards the roof at a minimum of 5%, unless otherwise shown on the Drawings.
- .3 Comply with requirements of NBC, supplemented by the following paragraphs.
- .4 Install furring and blocking as required to space-out and support wall and ceiling finishes, facings, fascia, soffit, siding and other work as required.
- .5 Align and plumb faces of furring and blocking to tolerance of 1:600.
- .6 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.

- .7 Install wood, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized steel fasteners.
- .8 Install wood backing, dressed, tapered and recessed slightly below top surface of roof insulation for roof hopper.

3.2 SECUREMENT OF WOOD BLOCKING

- .1 Comply with more stringent requirements as required by drawings or Ontario Building Code requirements. Increase number and spacing of all fasteners by 50% for 2400 mm from all outside roof corners.
- .2 Install fasteners to the design intent to hold all wood blocking permanently in place to prevent warping, deflection and to resist all wind and weather conditions.
- .3 Secure wood to concrete in a staggered pattern with each row spaced at minimum 600 mm c/c with specified fasteners. Drill holes 13 mm deeper than depth of fastener penetration.
- .4 Install fasteners in two rows in the direction of the grain, offset one to another in a staggered fashion by approximately 50%. All fasteners shall be placed minimum 10 mm from any edge of framing.
- .5 Unless specified otherwise, the number of fasteners shall be doubled at all outside parapet corners, for a distance of 3 m from the corner.
- .6 For any exposed fastening, provide touch-up paint as required to coat all exposed surfaces of screws damaged during the driving process.

3.3 SHEATHING INSTALLATION

- .1 Plywood:
 - .1 Not less than 2 mm gaps shall be provided between sheets, to allow for material expansion.
 - .2 Unless otherwise indicated, fasten plywood with a minimum of thirty-six fasteners per 1200 mm x 2400 mm sheet.

3.4 ERECTION

- .1 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .2 Countersink bolts where necessary to provide clearance for other work.
- .3 Bevel leading edge of wood panel products on vertical applications to facilitate membrane installation and as detailed on drawings.

END OF SECTION

Part 1 General

1.1 GENERAL

- .1 Contractor to provide an original, complete insurance policy identifying specific coverage for torch applied systems.

1.2 RELATED SECTIONS

- .1 Section 06 10 53 – Miscellaneous Rough Carpentry.
- .2 Section 07 62 00 – Sheet Metal Flashing and Trim.
- .3 Section 07 92 00 – Joint Sealants.
- .4 Section 22 05 11 – Plumbing and Drainage.

1.3 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM A653/A653M-19, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 Canadian Standards Association (CSA International)
 - .1 CSA A123.23-15, Product specification for polymer-modified bitumen sheet, prefabricated and reinforced.
 - .2 CSA A231.1-14/A231.2-14(R2018), Precast Concrete Paving Slabs / Precast Concrete Pavers.
 - .3 CSA B272-93 (R2000), Prefabricated Self-Sealing Roof Vent Flashings.
- .3 Factory Mutual (FM Global)
 - .1 Hot Work Permit Form F2630.
 - .2 FM 4450, Approval Standard for Class 1 Insulated Steel Roof Decks.
- .4 Underwriters Laboratories' of Canada (ULC)
 - .1 CAN/ULC S704-11, Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Convene pre-installation meeting one week prior to beginning roofing Work, with roofing contractor's representative and Departmental Representative to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other building subtrades.
 - .4 Review manufacturer's installation instructions and warranty requirements.

1.5 COORDINATION

- .1 Coordinate work of this Section with related work specified in other Sections to ensure construction schedule is maintained and water tightness and protection of the building and finished work is maintained at all times.

1.6 ACTION AND INFORMATIONAL SUBMITTALS

- .1 System summary:
 - .1 Provide a one page synopsis of each roof type that lists the assembly components in order from top to bottom.
- .2 Product Data:
 - .1 Provide two copies or an electronic copy of most recent technical roofing components data sheets describing materials' physical properties and include product characteristics, performance criteria, physical size, finish and limitations for all products to be incorporated in the new system.
 - .2 Provide two copies or an electronic copy of WHMIS 2015 Safety Data Sheets to Departmental Representative for:
 - .1 Primers.
 - .2 Sealers.
 - .3 Liquid membrane.
 - .4 Adhesives.
- .3 Provide shop drawings:
 - .1 Indicate sloped insulation layout and details.
 - .2 Provide shop drawing or submittal indicating adhesive pattern specified by adhesive manufacturer for the required wind uplift pressures indicated on the Drawings.
- .4 Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.7 QUALITY ASSURANCE

- .1 Installer qualifications: Company or person specializing in application of modified bituminous roofing systems with 5 years documented experience, approved by manufacturer. Installer to be members of Ontario Industrial Roofing Contractors Association (OIRCA) and/or Canadian Roofing Contractors' Association (CRCA) in good standing.
- .2 Only certified applicators are permitted to use torch welding equipment.
- .3 Hold a pre-installation meeting prior to the start of roofing works, with the roofing contractor's representative and the Departmental Representative, to review installation conditions particular to this project.

1.8 FIELD QUALITY CONTROL

- .1 Water Testing:

- .1 In the event the Departmental Representative deems any of the Work to be deficient, provide water test of all flashing, projections, equipment on roof and roofing system. Co-ordinate test with the Departmental Representative's operations personnel.
- .2 Contractor is to assume all costs of testing and correction.
- .2 Adhesion Testing:
 - .1 If requested by the Departmental Representative, at each roof drainage area, following installation of membrane base sheet, carry out adhesion tests to confirm adhesion of membrane to substrate and substrate layers to each other, down to first mechanically attached layer.
 - .2 Locations and timing of tests will be directed by Departmental Representative. Provide labour and materials as required to assist Departmental Representative in conducting tests.
 - .3 If inadequate adhesion is found, conduct further testing to determine the extent of the inadequate adhesion. Replace all defective areas to the satisfaction of the Departmental Representative. Replace substrate materials as necessary with new materials, and patch cut tests with membrane patches extending at least 150 mm beyond the cut.
 - .4 Contractor is to assume all costs of testing and correction.
- .3 Sample Testing:
 - .1 If requested by the Departmental Representative, at each roof drainage area, following installation of membrane base sheet, carry out sample tests to confirm materials and installation of roof assembly components. Sample size to be 300 mm x 300 mm.
 - .2 Locations and timing of tests will be directed by Departmental Representative.
 - .3 If inadequate construction is found, conduct further testing to determine the extent of the inadequate adhesion. Replace all defective areas to the satisfaction of the Departmental Representative. Replace substrate materials as necessary with new materials, and patch cut tests with membrane patches extending at least 150 mm beyond the cut.
 - .4 Contractor is to assume all costs of testing and correction.

1.9 FIRE PROTECTION

- .1 Fire Extinguishers:
 - .1 Pressure rechargeable type with hose and shut-off nozzle,
 - .2 ULC labeled for ABC class protection.
 - .3 ULC labeled for A class protection, for wood, paper and fibreboard.
 - .4 Size 14 kg.
 - .5 Have one fully charged ABC extinguisher and one fully charged Type A extinguisher on roof per torch applicator, within 3 m of the propane source.
- .2 Maintain fire watch for 2 hours after each day's torching operations cease.

1.10 GENERAL REQUIREMENTS

- .1 Comply with the General Requirements, General Instructions and Supplementary Conditions.
- .2 Execute work in accordance with this Section and other related Sections, Drawings and Details.
- .3 Attach roofing to structure to meet requirements of insurance underwriter and authorities having jurisdiction.
- .4 Regard manufacturer's printed recommendations as minimum requirement for materials, methods and workmanship not otherwise specified.
- .5 Contact the Departmental Representative if the specifications conflict with the manufacturer's recommendations. Otherwise it will be assumed that the Contractor and manufacturer are in agreement with procedures outlined.
- .6 Advise the Departmental Representative of adjustments to specified roofing procedures caused by weather and site conditions. Make adjustment to specified procedures only after review with the Departmental Representative.
- .7 Maintain equipment in good working order to ensure control of roofing operations and protection of work. Types of roofing equipment and laying techniques to be employed are to meet the approval of the Departmental Representative.
- .8 All temporary drains shall be connected with a mechanical connection (MJ coupling) or a U-flow connection, until new drains are installed.

1.11 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Safety: Comply with requirements of Workplace Hazardous Materials Information System (WHMIS 2015) regarding use, handling, storage, and disposal of, sealing compounds, primers and caulking materials.
- .3 Manufacturer's recommendations for handling and storing products are to be considered a minimum requirement.
- .4 Materials shall be delivered to the site, undamaged and in their original packages, with manufacturer's labels visible, attesting to their conformity to specific standards.
- .5 Ensure that shelf life of materials has not expired.
- .6 Remove damaged material from site and replace all rejected materials with new product.
- .7 Elevate on raised platform and store as to prevent deformation of materials.

- .8 Provide and maintain dry, off-ground weatherproof storage.
- .9 Store rolls of membrane in upright position. Store membrane rolls with selvage edge up.
- .10 Remove only in quantities required for same day use.
- .11 Place plywood runways over completed Work and over areas not in Contract, as required, to enable movement of material and other traffic.
- .12 Store sealants at +5°C minimum.
- .13 Protect insulation by slitting manufacturer's packaging and installing a waterproof UV-resistant tarp.
- .14 Handle roofing materials in accordance with manufacturer's written directives, to prevent damage or loss of performance.
- .15 Avoid stockpiling of materials or use of equipment on decks in a way which could cause overloading.

1.12 ENVIRONMENTAL REQUIREMENTS

- .1 Ensure protection of products that are sensitive to damage by moisture. Do not work during rain, snow or fog. Stop work and make watertight before the onset of inclement weather or when weather appears imminent.
- .2 Ensure protection of the building from weather at all times. If inclement weather is forecast or appears imminent, postpone work that would risk the building from moisture damage.
- .3 If it becomes apparent that work would threaten the building watertightness, the Departmental Representative has the right to stop work. Any additional expenses due to work stoppage or postponement of work will be at the Contractor's expense.
- .4 Ambient Conditions
 - .1 Do not install roofing when ambient temperature remains below -18°C for torch application.
 - .2 Minimum ambient temperature for solvent-based adhesive is -5°C.
- .5 Install roofing on dry deck, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into roofing system.

1.13 COMPATIBILITY

- .1 Compatibility between materials is essential. Use only materials that are known to be compatible when incorporated in a complete assembly. Provide written declaration to Departmental Representative stating that materials and components, as assembled in system, meet this requirement.

- .2 Defective work resulting from work with incompatible materials will be considered the responsibility of the Contractor.
- .3 Repair all work that could result in damage or interfere with performance.

1.14 EXISTING SUBSTRATES

- .1 Following removal of existing material to the substrate, inspect the deck for soundness and notify the Departmental Representative of any deck found unsound and not suitable for roofing. Do not commence work until conditions are documented and the Departmental Representative rules on the acceptability of surfaces and/or corrective measures required. The cost of any delays due to postponement of work that results from investigating the site problem or obtaining a ruling will be at the Departmental Representative's expense.
- .2 The commencement of work is proof that the Contractor has accepted surfaces as satisfactory and accepts responsibility for appearance and performance of completed work.
- .3 Defective work resulting from application of material on unsatisfactory surfaces will be considered the responsibility of the Contractor.
- .4 The Contractor will be responsible for all repairs, costs and pay all cost and fees required to rectify damage or defective work. Use materials and finish to match the original preconstruction conditions.

1.15 DAILY OPERATIONS

- .1 Unless otherwise specified, complete the entire roofing operation up to line of termination of each day's work, as required by design intent, in order to safeguard and protect the work and building from damage and weather.

1.16 EXAMINATION

- .1 Before proceeding with roofing application, ensure that:
 - .1 All surfaces are clean and free of debris, snow, frost and moisture.
 - .2 The deck is clean and sufficiently dry to ensure specified adhesion will be obtained.
 - .3 Adjacent construction and installation of related work (i.e. curbs, drains, penetrations, wood nailers, etc.) incorporated with the roof are complete.
 - .4 Roof deck is sound, existing fasteners are tight and irregularities are corrected to provide a suitable surface for new roofing.
- .2 Ensure substrate is smooth. Remove sharp edges or protrusions that could impair the function of the roof assembly.
- .3 Inform Departmental Representative in writing of any defects.

1.17 DRAINS AND DRAINAGE PLANE

- .1 Inspect surfaces and ensure that roof deck is level or sloped to drains in conforming to design intent.
- .2 Inspect surfaces and ensure that roof drains are set at a level to drain and are connected or capped.
- .3 Take spot levels to verify that pools of water in excess of 13 mm depth will not form.
- .4 Tabulate levels and submit to Departmental Representative.
- .5 Ensure plumbing is accessible and work can be completed as specified.
- .6 Inspect roof drains to ensure they are open and working properly.
- .7 Where specified or shown for areas with only one drain, provide overflow scuppers or drains to detail and specified requirements.

1.18 EQUIPMENT

- .1 Inspect equipment affected by the work, including but not limited to rooftop equipment, curbs, existing drains and plumbing, mechanical, electrical and lightning protection services, to ensure they are in good repair and working order. Record any damage and advise the Departmental Representative.
- .2 During re-roofing, ensure that all mechanical equipment, ducts, pipes, etc. are properly supported.
- .3 Notify Departmental Representative of any equipment which is not operational or damaged prior to the commencement of work.

1.19 ADVISE DEPARTMENTAL REPRESENTATIVE

- .1 Advise the Departmental Representative of any unusual circumstances affecting the work. Notify the Departmental Representative of any defective or malfunctioning equipment or drainage deficiencies. Do not commence work until defects and incorrect levels have been verified and rectified.

1.20 PROTECTION OF ROOFTOP EQUIPMENT

- .1 Remove any equipment and flashing intended for re-use and save from harm. Store in approved location and reset at project conclusion unless specified or shown to be removed.
- .2 Protect all openings, vents and stacks from weather and contamination from debris.
- .3 Provide temporary plumbers plugs to protect drains during roofing operations. Ensure that temporary protection is removed at completion of work period and/or at the end of each days work.

1.21 SERVICES

- .1 Services are to be left operational unless otherwise authorized by the Departmental Representative.
- .2 Unless otherwise specified, the Contractor will be responsible for disconnection, relocation, re-installation and extending all services required to facilitate work under this Contract. Co-ordinate work with the Departmental Representative and provide minimum of 48 hours notification if services are to be interrupted.
- .3 Contractor to verify location of services prior to commencement of work. Notify Departmental Representative of any unusual conditions.
- .4 The Contractor and their employees must hold valid certificates for the work undertaken.
- .5 Complete work of this Section as required by local authorities having jurisdiction. Have work inspected and pay all fees relative to such inspection to ensure work meets with published standards and codes.
- .6 Submit Certificate or Letter of Approval by authority responsible for the work to the Departmental Representative with final documentation.
- .7 All fans, air handling units, and any electrical equipment affected by the replacement of the roof sections under this Section, whether disconnected or extended must be inspected by an ESA representative to verify the integrity of the existing wiring and/or the new installation.

1.22 WARRANTY

- .1 Contractor's Warranty for Labour and Material:
 - .1 For Work of this Section 07 52 00 - Modified Bituminous Membrane Roofing, 12 months warranty period is extended to 24 months.
 - .2 Make all necessary repairs and replacements within 48 hours of receipt of written notification.
 - .3 Nothing contained in this Article shall be construed as in any way restricting or limiting the liability in common law and statutory liability of the Contractor.
 - .4 Provide these written warranties, confirming above, issued on the corporate letterhead, signed and sealed by an authorized signing officer. The warranties will specifically reference the name of the Building, location and Departmental Representative.
- .2 Manufacturer's Warranty:
 - .1 Provide a 10-year membrane warranty.

Part 2 Products

2.1 GENERAL

- .1 All standards, regulations and specifications listed herein are considered to be the latest available edition.

2.2 PRIMERS

- .1 Asphalt Primer: To manufacturer's recommendations.
- .2 Self-adhesive membrane primer. As recommended by membrane manufacturer. Use low VOC, polymer emulsion-based primer, unless directed otherwise by Departmental Representative on site.

2.3 AIR/VAPOUR BARRIER MEMBRANE

- .1 For concrete decks and torchable gypsum board surfaces:
 - .1 Torch grade modified bituminous air/vapour barrier, to CSA A123.23, with polyester or glass fleece reinforcement, minimum thickness 3 mm, top side sanded.
 - .1 Type A, B or C.
 - .2 Grade 3.
 - .3 Top and bottom surfaces: sanded/polyethylene.

2.4 SELF-ADHERED MEMBRANE

- .1 To CSA A123.22, self-adhering membrane consisting of SBS rubberized asphalt compound laminated to a polyethelene film. Minimum thickness 1 mm.

2.5 MEMBRANE AND MEMBRANE FLASHINGS

- .1 Acceptable membrane manufacturers:
 - .1 Soprema.
 - .2 IKO Industries Ltd.
 - .3 Henry Bakor.
 - .4 Johns Manville.
- .2 Base sheet membrane and base sheet membrane flashing (non-combustible substrates): To CSA A123.23.
 - .1 Styrene-butadiene-styrene (SBS) elastomeric polymer polyester or composite polyester/fibreglass reinforcement.
 - .2 Type B or Type C.
 - .3 Grade 2.
 - .4 Top and bottom surfaces:
 - .1 polyethylene/polyethylene.
- .3 Self-adhesive base sheet membrane flashing (combustible substrates): To CSA A123.23.

- .1 Styrene-butadiene-styrene (SBS) elastomeric polymer prefabricated sheet, polyester or composite polyester and glass reinforcement.
- .2 Type B or Type C.
- .3 Grade 2.
- .4 Top and bottom surfaces:
 - .1 Polyethylene/release paper.
- .4 Cap sheet membrane and membrane flashing: To CSA A123.23.
 - .1 Styrene-butadiene-styrene (SBS) elastomeric polymer, prefabricated sheet, polyester or composite polyester/fibreglass reinforcement.
 - .2 Type B or Type C.
 - .3 Grade 1, granule surfaced.
 - .1 Colour for granular surface: Gray.
 - .4 Grade 1-standard service.
 - .5 Bottom surface polyethylene.
- .5 Fireguard tape:
 - .1 Modified bituminous membrane supplied in strips, 150 mm wide, 1.6 mm thick, glass fleece reinforced with self-adhesive underside.
 - .2 Provided by membrane manufacturer.

2.6 LIQUID MEMBRANE

- .1 Two-component methacrylate or one component polyurethane/bitumen resin, solid content 80% or greater, compatible with roof membrane.
- .2 Reinforcement mesh: As recommended by liquid membrane manufacturer.

2.7 ADHESIVES

- .1 Adhesive for securing overlay board and insulation: To be fully compatible with all materials in the roofing assembly. Applicability of use to adhere the different materials in the roofing assembly to be included in the manufacturer's literature.

2.8 POLYISOCYANURATE INSULATION (INORGANIC)

- .1 Conforming to CAN/ULC S704, rigid foam board, Class 2 or 3, Type 3. Manufactured with HC blowing agent meeting requirements of CAN/ULC S126, CAN/ULC S107 and CAN/ULC S770 for LTTR values. Approved and listed by Factory Mutual Global for 1-60 and 1-90 wind classification and FM 4450 requirements for Class 1 fire. Thickness as specified or shown with maximum board size 1200 mm x 1200 mm. Fibre-reinforced **inorganic facers** on both major surfaces of the core foam.

2.9 SLOPED INSULATION (INORGANIC)

- .1 Conforming to CAN/ULC S704, rigid foam board, Class 2 or 3, Type 3. Manufactured with HC blowing agent meeting requirements of CAN/ULC S126, CAN/ULC S107 and CAN/ULC S770 for LTTR values. Approved and listed by

Factory Mutual Global for 1-60 and 1-90 wind classification and FM 4450 requirements for Class 1 fire. Thickness as specified or shown with maximum board size 1200 mm x 1200 mm. Fibre-reinforced **inorganic facers** on both major surfaces of the core foam.

- .2 Insulation slopes shall be as indicated on the detailed drawings and roof plans. Modules shall be factory cut to correct slopes.

2.10 OVERLAY BOARD

- .1 Overlay board: 6 mm thick asphalt based overlay board with non-woven glass facers, as recommended by the membrane manufacturer.

2.11 SEALERS

- .1 Plastic cement: Asphalt, to CAN/CGSB-37.5.
- .2 For sealants, mastic, adhesives or caulk, refer to Section 07 92 00 – Joint Sealants.

2.12 WALKWAY MATERIALS

- .1 One additional ply of cap sheet membrane. Colour to be different from field membrane as selected by Departmental Representative.
- .2 Rubber walkway pad: Heavy duty grade, 1500 mm x 1200 mm or for size as indicated, 19 mm thick, masticated recycled rubber with reinforcement and UV resistant, dimpled surface

2.13 PROTECTION MATERIALS

- .1 Rubber protection pad: Heavy duty grade, 550 mm x 550 mm or for size as indicated, 8 mm thick, masticated recycled rubber with reinforcement and UV resistant, dimpled surface.

2.14 MEMBRANE FASTENING BAR

- .1 Galvanized sheet steel or extruded aluminum, thickness 1 mm (20 ga.), 38 mm width, supplied in minimum 2.4 m lengths, with pre-drilled 2 mm holes, secured with #14 stainless steel screws @ 150 mm c/c.

2.15 PLUMBING VENTS

- .1 2-piece spun aluminum with integral flange, diameter to suit existing pipe size.

2.16 ROOF DRAINS

- .1 See Section 22 05 11 – Plumbing and Drainage.

2.17 GUY WIRE ANCHOR

- .1 Epoxy coated, urethane insulated hollow steel support and steel ring with galvanized eye and stainless steel cap for affixing guy wire (by others); manufacturer's standard urethane insulated (1.6 mm) mill finish 1100-0T alloy aluminum flashing and EPDM Base Seal and bituminous painted deck flange.
- .2 Anchor to be 360 mm high, with pipe 60 mm diameter and 6 mm thick. Eye bolt to have ID of 25 mm, OD of 57 mm and thread diameter of 13 mm. Base plate to be 305x305x6.35 mm thick.

2.18 ROOF ACCESSORIES

- .1 Bituminous metal paint: To isolate metal from concrete and masonry surfaces, to CAN/CGSB-1.108-M89 Type II.
- .2 Door sill: Extruded aluminum, width to suit opening.
- .3 Pile weatherstripping: Vinyl and pile, external attachment to door sill, adjustable.

Part 3 Execution

3.1 QUALITY OF WORK

- .1 Do examination, preparation and roofing Work in accordance with Roofing Manufacturer's Specification Manual and CRCA Roofing Specification Manual.
- .2 Do priming in accordance with manufacturer's written recommendations.
- .3 Fit the interface of all walls and roof assemblies with durable rigid material sheet metal or plywood providing connection point for continuity of air barrier.
- .4 Make assembly, component and material connections in consideration of appropriate design loads, with reversible mechanical attachments.
- .5 In the event that any product contains a manufacturing defect or anomaly, the Contractor shall notify the Departmental Representative and manufacturer immediately and request direction.

3.2 REMOVAL OF EXISTING ROOFING

- .1 Remove all roofing, flashing and insulation materials down to deck. Leave existing blocking and parapet construction in place where indicated. Where a built-up air/vapour barrier is present, remove this from the deck unless agreement is otherwise obtained from the Departmental Representative to leave in place.
- .2 Remove existing rooftop equipment where indicated.

3.3 EXAMINATION OF ROOF DECKS

- .1 Verification of Conditions:
 - .1 Inspect with Departmental Representative deck conditions including parapets, construction joints, roof drains, plumbing vents and ventilation outlets to determine readiness to proceed.
- .2 Evaluation and Assessment:
 - .1 Prior to beginning of work ensure:
 - .1 Decks are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris. Do not use calcium or salt for ice or snow removal.
 - .2 Curbs have been built.
 - .3 Roof drains have been installed at proper elevations relative to finished roof surface.
 - .4 Plywood and lumber nailer plates have been installed to deck, walls and parapets as indicated.
- .3 Do not install roofing materials during rain or snowfall or when such weather is imminent.

3.4 MECHANICAL EQUIPMENT DISCONNECTION / MODIFICATION / RECONNECTION

- .1 Perform disconnection, extension, modification, and reconnection of mechanical equipment in accordance with drawings provided. Work shall be performed by a licensed trade sub-contractor. Obtain approval from Departmental Representative prior to making adjustments not scheduled.
- .2 In general, Contractor is responsible for disconnection extension, modification, and reconnection of all operating HVAC equipment in work area. Departmental Representative is responsible for disconnection (at interior) of those mechanical items indicated for removal by Contractor.
- .3 All mechanical equipment must be properly tagged out of service (especially where gas is present). ESA certificates are required for all mechanical and electrical reconnections.

3.5 PROTECTION OF IN-PLACE CONDITIONS

- .1 Cover walls, walks and adjacent work where materials hoisted or used.
- .2 Use warning signs and barriers. Maintain in good order until completion of Work.
- .3 Protect roof from traffic and damage. Comply with precautions deemed necessary by Departmental Representative.
- .4 At end of each day's work or when stoppage occurs due to inclement weather, provide protection for completed Work and materials out of storage.
- .5 Metal connectors and decking will be treated with rust proofing or galvanization.

- .6 Fit the interface of the walls and roof assemblies with durable rigid material sheet metal or plywood providing connection point for continuity of air barrier.

3.6 PRIMING

- .1 Unless otherwise indicated or directed by Departmental Representative, prime all surfaces which will be in direct contact with bituminous materials at the rate of 0.15 L/m² to manufacturer's recommendations. For self-adhering membrane, install primer at a rate recommended by manufacturer. Ensure that surfaces are tack-free before proceeding.
- .2 Limit quantity of primer at deck openings and points of termination and provide supplemental protection to prevent bleedthrough to the building interior.
- .3 Roll primer into surface.
- .4 Re-prime all surfaces, including pre-primed surfaces, that become contaminated with dust or become marred due to their exposure to roof traffic or weather.

3.7 TORCH-APPLIED AIR/VAPOUR BARRIER ON SHEATHING OR CONCRETE DECK

- .1 Ensure all surfaces to be covered with self-adhering membrane are complete and free of moisture and contaminants and surfaces are above 5°C (40°F). At temperatures below 5°C (40°F) heat materials to be covered with hot air gun. Store all materials in heated storage when temperatures fall below 5°C (40°F) and remove only as much material that can be used before cooling.
- .2 Prime all vertical surfaces to be covered with torch-applied membrane, and horizontal surfaces as required. Use roller application – no spray application permitted. Let primer tack dry and complete thumb test to test set-up.
- .3 Use fireguard tape or overlay board to protect all open joints in substrate and all combustible surfaces.
- .4 Working up slope from drain, install air/vapour barrier membrane using torch methods, true to line to completely cover the area intended to be protected to points shown on the drawing.
- .5 Membrane is to be installed without air blisters and wrinkles. Rework, repair or replace all poorly installed membrane. Do not stretch material that would result in pullback and deformity of the membrane at intersections.
- .6 Lap all side laps 75 mm and end laps 150 mm. Torch all seams to achieve bleedout. At nailable surfaces, secure all membrane on vertical surface at points of termination at 150 mm c/c, using large head roofing nails.
- .7 Turn up membrane 150 mm at edge where horizontal surface meets vertical planes. Lap onto existing surfaces as required to provide continuity of air/vapour barrier at terminations. Use fireguard tape or overlay board to protect all open joints in deck and all combustible surfaces

- .8 Seal all points of termination at horizontal planes and vertical surfaces with modified sealant. Tool sealant to consistent smooth and even surface.
- .9 Seal all perimeters and penetrations, and ensure drains are operational and prevent backflow, if air/vapour barrier is to be left exposed as an overnight temporary waterproofing.

3.8 INSULATION – ALL LAYERS – ADHESIVE ADHERED

- .1 Adhere boards to meet the specified requirement, as per the OBC Wind Uplift Attachment table illustrated on the drawings.
- .2 Install base insulation layer over air/vapour barrier to specified design intent and thickness. Secure insulation laid with adhesive, in pattern as per adhesive manufacturer's directions and as indicated. Apply boards before adhesive cures, skims over or loses adhesive qualities.
- .3 For subsequent layers of insulation, secure insulation laid with adhesive, in pattern as per adhesive manufacturer's recommendations and as indicated.
- .4 Stagger all joints of insulation a minimum 300 mm.
- .5 Stagger both end and side joints between insulation layers.
- .6 Butt sheets of insulation with moderate contact. Do not force insulation into place. Cut neatly at projections and points of termination. Replace all broken, damaged or misfit boards as work progresses.
- .7 Where necessary, back-cut insulation to allow it to conform and stay bonded to irregular surfaces without bridging. Subsequent to placement, walk insulation into place to ensure positive bonding is achieved.

3.9 SLOPED INSULATION

- .1 Adhere boards to meet the specified requirement, as per the OBC Wind Uplift Attachment table illustrated on the drawings.
- .2 At all locations of sloped insulation provide shop drawings from sloped insulation manufacturer for Departmental Representative's review prior to installation.
- .3 At all new and existing drain locations, provide sloped polyisocyanurate insulation sump around drain to promote positive drainage. Total sump size to be as shown on drawings, with maximum depression of 25 mm, unless otherwise indicated.
- .4 Installation methods for sloped insulation to be same as for upper layers of base insulation, using adhesive as specified.
- .5 At the low termination of sloped insulation, when applying overlay board, Contractor shall increase adhesive application by adding 4 additional ribbons at 100 mm spacing at the 13 mm elevation change from tapered to flat insulation, to compensate for the 13 mm elevation change of tapered insulation.

3.10 OVERLAY BOARD

- .1 Adhere boards to meet the specified requirement, as per the OBC Wind Uplift Attachment table illustrated on the drawings.
- .2 Place boards in parallel rows with end joints staggered. Tape joints in overlay board with fireguard membrane where combustible surfaces are directly below.
- .3 Where overlay board is specified on nailable vertical surfaces, secure overlay board using large-head roofing nails at 200 mm centres each direction and tape all joints with fireguard tape.

3.11 MODIFIED BITUMINOUS MEMBRANE - GENERAL APPLICATION

- .1 Inspect and seal all substrates to eliminate fire hazard. Use fireguard tape as required or recommended by manufacturer.
- .2 Mechanical spreaders are not permitted to install modified membranes.
- .3 Use only bitumen, sealants, adhesive or mastics as specified by membrane manufacturer. Provide written approval from manufacturer when proposing any alternatives or substitutions.
- .4 Lay out all sheets as to allow them to relax a minimum of 30 minutes. When temperatures are below 4.4°C keep and lay out rolls in heated storage. Install rolls before temperature fallback of the sheet occurs.
- .5 Roof membrane to be installed in one sheet if possible.
- .6 Lay all membrane starting at low point to ensure that seams do not face water flow. Roll all membrane into place, true to line, free of buckles, air pockets, fishmouths and tears.
- .7 Overlap all end laps minimum 150 mm and side laps 75 mm.
- .8 Offset all side laps between plies by 50%.
- .9 Offset all end laps between plies minimum 1200 mm.
- .10 At valley locations, run membrane continuously with the slope of the main roof. Lay out all sheets to ensure minimum side laps are maintained through valley area and short section of roof beyond. At these locations the side laps for the main roof will increase. Install membrane to details and Departmental Representative's direction onsite.
- .11 Ensure that a watertight seal is achieved at all overlaps and points of termination.
- .12 Carry base sheet flashing over face of building as shown on the drawings.
- .13 Carry membrane up all vertical surfaces to point shown. Cut off corners at 45° at end laps to be covered by the next roll prior to installation of following sheet.

- .14 Verify procedure with Departmental Representative on site. Seal fasteners through membrane immediately with Type 'A' sealant.
- .15 Do not walk on membrane during applications and until sufficient cooling has taken place as to allow for traffic without doing damage or marking surface.

3.12 BASE SHEET FLASHINGS (SELF-ADHERED APPLICATION)

- .1 All flashings to be cut across the roll in 1 m sections. Cut off corners at end laps to be covered by next flashing piece.
- .2 Provide chalk lines and install all membrane true to line. Install gusset reinforcement pieces at all corner locations.
- .3 Ensure wall or eave surfaces are clean and dry, free of contaminants or other irregularities. Re-prime as necessary.
- .4 Commence flashings from the drain or low points and overlap all side laps minimum 75 mm. Base sheet flashings to extend 100 mm onto roof surface and terminate as shown in drawings.
- .5 Place sheet into primer or adhesive and press into place using hand roller to ensure uniform adhesion. Use hot air welder on all seams and joints to ensure a waterproof seal on all points of termination. Apply flashings free of air pockets, voids, wrinkles or fishmouths.

3.13 BASE SHEET (TORCH APPLICATION)

- .1 Install 1-ply base sheet membrane running with the roof slope, starting at the low point. Layout roll in place to verify alignment and proper overlap and re-roll prior to torching.
- .2 Fully torch in place base sheet membrane using proper application techniques as specified by membrane manufacturer.
- .3 Install membrane true to line and free of wrinkles, air pockets, voids, excessive bitumen flow or other irregularities. Ensure the membrane is not overheated at any location. Should any of these conditions occur, immediately stop membrane application and correct the deficiency before proceeding. Notify Departmental Representative and obtain his approval for proposed repair methods. Questionable areas will require to be cut out and replaced.
- .4 Ensure that a watertight seal of all membrane joints and points of termination is achieved with a torch and trowel.
- .5 Terminate base sheet up all verticals 50 mm, secure on vertical with membrane fastening bar and fasteners @ 150 mm c/c.
- .6 Review base membrane for low areas (ponding) and correct with additional base sheet membrane.

3.14 BASE SHEET FLASHINGS (TORCH APPLICATION)

- .1 All flashings to be cut across the roll in 1 m sections. Cut off corners at end laps to be covered by next flashing piece.
- .2 Provide chalk lines and install all membrane true to line. Install gusset reinforcement pieces at all corner locations.
- .3 Commence flashings from the drain or low points and overlap all side laps minimum 75 mm. Base sheet flashings to extend 100 mm onto roof surface and terminate as shown in drawings.
- .4 Install membrane by softening both contact surfaces simultaneously with recommended torching equipment. During application, unroll membrane slowly into fluid bitumen ensuring consistent 6 mm flow protrudes each side of the roll.
- .5 Unroll and work sheet into place using torch, trowel and wet sponge to ensure proper placement and adhesion.
- .6 Install membrane true to line and free of wrinkles, air pockets, voids, excessive bitumen flow or other irregularities. Ensure the membrane is not overheated at any location. Should any of these conditions occur, immediately stop membrane application and correct the deficiency before proceeding. Notify Departmental Representative and obtain his approval for proposed repair methods. Questionable areas will require to be cut out and replaced.

3.15 CAP SHEET (TORCH APPLICATION)

- .1 Prior to installation, unroll the cap sheet and check for granular embedment width and alignment.
- .2 Layout membrane to ensure side lap of cap sheet does not occur within 150 mm of roof drain.
- .3 Install specified cap sheet membrane running with the roof slope, starting at the low point. Layout roll in place to verify alignment and proper overlap and re-roll prior to torching. Offset cap sheet side laps 50% to base sheet side laps, ensure lap does not lie within 150 mm of a roof drain.
- .4 Install 1-ply cap sheet membrane full torched in place using proper application techniques as specified by the membrane manufacturer.
- .5 Install membrane by softening both contact surfaces simultaneously with recommended torching equipment. During application, unroll membranes slowly into fluid bitumen ensuring consistent 3 mm to 6 mm flow protrudes each side of the roll.
- .6 Install membrane true to line and free of wrinkles, air pockets, voids, excessive bitumen flow or other irregularities. Ensure the membrane is not overheated at any location. Should any of these conditions occur, immediately stop membrane application and correct the deficiency before proceeding. Notify Departmental

Representative and obtain his approval for proposed repair methods.
Questionable areas will require to be cut out and replaced

- .7 Using a torch and trowel, embed granules at end laps and where required on surface of cap sheet to ensure proper bonding of membrane overlaps.

3.16 CAP SHEET FLASHINGS (TORCH APPLICATION)

- .1 All flashings to be cut across the roll in 1 m sections. Cut off corners at end laps to be covered by next flashing piece.
- .2 Provide chalk lines and install all membrane true to line. Install base sheet gusset reinforcement at all corner locations.
- .3 Commence flashings from the drain or low points and overlap all side laps minimum 75 mm. Cap sheet flashings to extend 150 mm onto roof surface and terminate as shown in drawings. At wall locations, unless otherwise specified, cap sheet flashings to extend up 50 mm higher than base sheet flashings.
- .4 Where required by Summary of Work and details, install 50 mm wide continuous strip of Type 'A' sealant to the tops of parapets or eaves to prevent bitumen spillage on the building exterior.
- .5 Install membrane by softening both contact surfaces simultaneously with recommended torching equipment. During application, unroll membrane slowly into fluid bitumen ensuring consistent 6 mm flow protrudes each side of the roll.
- .6 Unroll and work sheet into place using torch, trowel and wet sponge to ensure proper placement and adhesion.
- .7 Install membrane true to line and free of wrinkles, air pockets, voids, excessive bitumen flow or other irregularities. Ensure the membrane is not overheated at any location. Should any of these conditions occur, immediately stop membrane application and correct the deficiency before proceeding. Notify Departmental Representative and obtain his approval for proposed repair methods.
Questionable areas will require to be cut out and replaced.
- .8 Touch up bare spots, corners, scuffs and bleedout runs on cap sheet with granules matching membrane colour, immediately following installation. Use hot air welder, torch or Type 'A' sealant to adhere granules to sheet.

3.17 ROOF DRAINS

- .1 See Section 22 05 11 – Plumbing and Drainage for plumbing work.
- .2 Install self-adhered membrane air seal around drain and extend onto air/vapour barrier minimum 150 mm.
- .3 Unless otherwise specified or shown, provide prefabricated sump of sloped polyisocyanurate insulation 1200 mm each side of the centre of the drain. Reduce polyisocyanurate insulation thickness to minimum 19 mm at drain to

- provide positive roof drainage (make allowance for thickness of all flanges and clamps) and ensure water flow will not be impeded.
- .4 Complete roof membrane, installing additional 1 m x 1 m base sheet flashing centred over drain opening.
 - .5 Fully coat drain flange to receive roofing with modified sealant and continue modified bitumen over flange. Neatly trim and work membrane to interior face and seal with Type 'A' sealant.
 - .6 Set clamping ring in solid bed of Type 'A' sealant. Secure clamp ring and integral screen as dictated by drain design immediately after membrane is installed. Tighten bolts to ensure a permanent watertight compression seal.
 - .7 Install and bolt strainers with heavy iron mechanical bracket to ensure the drain screen remains permanently in place to the Departmental Representative's approval.
 - .8 Install test plug, water test roof and repair leaks. Remove test plug once complete.
 - .9 Restore interior finishes affected by work of this Contract to match original materials and finishes to Departmental Representative's approval. Insulate rainwater leader pipes as required by Summary of Work in accordance with Section 22 05 11 – Plumbing and Drainage.

3.18 PLUMBING VENTS, STACKS AND SLEEVES

- .1 Inspect and clean soil pipes of debris to ensure they are operational.
- .2 Protect exposed surface during roofing operation and clean surfaces free of bitumen before leaving site.
- .3 Make all penetrations air and watertight at air/vapour barrier by installing self-adhesive membrane flashings 150 mm onto air/vapour barrier and carry up and around projection. Clamp in place and caulk.
- .4 Trim base sheet at roof projections.
- .5 Adjust existing pipes to new flashing heights by either cutting down or extending pipes with matching materials attached with mechanical couplers. Ensure pipes are 38 mm higher than flashing to allow for sealing to prevent condensation.
- .6 Clear all projections free of contaminants and seal junction of base sheet and roof projections with trowel applications of sealant as shown on drawings.
- .7 Install all metal flanges to be built into the membrane before the installation of cap sheet. Insulate sleeves in accordance with drawings as specified. Where required, install telescoping caps to detail.

- .8 Prime topside and underside of all flanges to be incorporated with roofing prior to application. Use primer supplied by the membrane manufacturer. All primer to be dry before installation of membrane roofing or flashing.
- .9 Before installing flashings, install 1-ply base sheet extending to opening. Set flanges in bed of Type 'A' sealant prior to membrane installation, as per manufacturer's recommendations.
- .10 Install 1-ply of base sheet flashings thermofused to the flange to within 25 mm from upturn and continuing a minimum of 225 mm beyond flange. Continue cap sheet to metal upturn. Seal around upturn junction with sealant and touch up with matching granules, as per manufacturer's recommendations.

3.19 LIQUID MEMBRANE FLASHING

- .1 Using a slow-speed mechanical agitator, thoroughly mix the entire container of resin for two minutes before the addition of catalyst. Pour the resin into a second container if you make a batch mix. Add pre-measured catalyst to the resin component according to the amounts indicated in manufacturer's Catalyst Mixing Chart. Add catalyst only to the amount of material that can be used within 10 to 15 minutes. Stir again for two minutes before applying.
- .2 Apply the first resin layer to the substrate using rollers, brushes or notched squeegees provided for this purpose. The thickness of the first layer must be 1.3 mm to 1.5 mm when wet.
- .3 Lay out the polyester reinforcement on the resin to prevent the formation of wrinkles, swellings or fishmouths.
- .4 Use rollers, brushes or notched squeegees in order to fully saturate resin reinforcement and remove wrinkles and air bubbles under the reinforcement. The appearance of the reinforcement should be slightly opaque without any white trace. It is important to correct these defaults before the resin cures.
- .5 Apply the second resin layer on top of the reinforcement using rollers, brushes or notched squeegees provided for this purpose. The second layer thickness must be 0.6 mm to 0.7 mm when wet.
- .6 Excess resin which is not absorbed should be used to saturate adjacent reinforcement.
- .7 The final resin coating should be smooth and even.
- .8 Each reinforcement shall overlap the previous one by 50 mm laterally and by 100 mm at the ends.

3.20 CLEAN UP

- .1 At all times, keep the premises free from accumulation of waste materials or rubbish. Stock piling of debris on the roof will not be permitted.

- .2 Repair defects in surface and bitumen runs with granules to match existing to leave the roof in an even consistent finish.
- .3 Leave roof clear of debris and bitumen left by spills and machine tracking.
- .4 Leave grounds and building free of debris and bitumen spread by pedestrian traffic where applicable.
- .5 Clean surfaces and penetrations of all contaminants and touch up to the satisfaction of the Departmental Representative. Include rooftop equipment, curbs, soil stacks, sleeves, gas lines, vents, drains and ladders.
- .6 Check drains to ensure they are functional and where required remove all debris by vacuum.
- .7 At the completion of the work remove all rubbish, tools, equipment and surplus materials.
- .8 Be responsible to repair and pay all costs and fees required to rectify damage caused by work of the Contract with materials and finish to match original.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 06 10 53 – Miscellaneous Rough Carpentry.
- .2 Section 07 52 00 – Modified Bituminous Membrane Roofing.
- .3 Section 07 92 00 – Joint Sealants.

1.2 REFERENCE STANDARDS

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM A653/A653M-19, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 Canadian General Standards Board (CGSB)
 - .1 CSA A123.3-05(R2015), Asphalt Saturated Organic Roofing Felt.
 - .2 CAN2-51.32-M77, Sheathing, Membrane, Breather Type.
- .3 Canadian Roofing Contractors Association (CRCA)
 - .1 Roofing Specifications Manual 2012.
- .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS 2015)
 - .1 Safety Data Sheets (SDS).
- .5 Sheet Metal and Air Conditioning Contractors Association of North America (SMACNA)
 - .1 Architectural Sheet Metal Manual

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit to the Departmental Representative a list of materials intended for use before they are ordered.
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature including product specifications and technical data sheets for sheet metal flashing fasteners and accessory materials. Include product characteristics, performance criteria, physical size, finish and limitation.
 - .2 Submit copies of WHMIS 2015 SDS - Safety Data Sheets
- .3 Samples:
 - .1 Submit duplicate 50 x 50 mm samples of each type of sheet metal material, finishes and colours.

1.4 COORDINATION

- .1 Coordinate work of this Section with Related Work specified in other Sections to ensure construction schedule is maintained and watertightness and protection of the building and finished work is maintained at all times.

1.5 EXAMINATION

- .1 Do not commence work until surface to be covered has been inspected.
- .2 Inspect work and advise the Departmental Representative of conditions that would adversely affect the work of this trade.
- .3 Commencement of work is proof that the Contractor has accepted surfaces as satisfactory for intended operations and accepts responsibility for appearances and performance of completed work.
- .4 Repair damaged and inferior work caused by work of this Contract with materials and finish to match original to the Departmental Representative's approval.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Safety: Comply with requirements of Workplace Hazardous Materials Information System (WHMIS 2015) regarding use, handling, storage, and disposal of materials.
- .3 Manufacturer's recommendations for handling and storing products are to be considered a minimum requirement.
- .4 Materials shall be delivered to the site, undamaged and in their original packages, with manufacturer's labels visible, attesting to their conformity to specific standards.

Part 2 Products

2.1 GENERAL

- .1 All standards, regulations and specifications listed herein are considered to be the latest available edition.
- .2 Compatibility between materials is essential. Use only materials that are known to be compatible when incorporated in a completed assembly.

2.2 PREFINISHED SHEET METAL FLASHING

- .1 Pre-finished metal flashings: As shown on drawings, fabricate from 0.65 mm (24 ga.) steel to ASTM A653 Grade 230 with G90 zinc coating. Surface with

Perspectra Series baked enamel finish. Colour to match existing from manufacturer's standard colour range.

2.3 ACCESSORIES

- .1 Metal cleat: Same material as metal flashings, 50 mm wide @ 600 mm c/c.
- .2 Continuous metal starter strip: 0.71 mm (24 ga.) galvanized steel, secured at 400 mm c/c.
- .3 Use galvanized, copper, aluminum or stainless steel nails or screws as most compatible with materials and preservatives being utilized.
- .4 Nails: Annular threaded nails of length to penetrate into bases minimum 25 mm. No. 8 screws to penetrate wood 19 mm at 600 mm c/c.
- .5 Masonry fasteners: sized to penetrate concrete 38 mm minimum as specified or shown.
- .6 Exposed fasteners: Where exposed fasteners are specified or as shown, use #10 screws with metal and neoprene washers pre-finished to match colour of flashing. Alternatively, use screws with colour match nylon caps where shown or approved by the Departmental Representative.
- .7 Screws for starter strips and fascia: #8 @ 400 mm c/c.
- .8 Wedges: Rolled plumber sheet lead.
- .9 Sealant: Refer to Drawings and Section 07 92 00 – Joint Sealants.
- .10 Self-adhered membrane: To CSA A123.22, self-adhering membrane consisting of SBS rubberized asphalt compound laminated to a polyethelene film. Minimum thickness 1 mm.
- .11 Touch-up paint: As recommended by prefinished material manufacturer.

2.4 FABRICATION

- .1 Fabricate metal flashings and other sheet metal work in accordance with applicable details, as indicated. Where not indicated, follow applicable CRCA 'FL' series details and SMACNA architectural details.
- .2 Metal shall be formed on a bending brake, shaping trimmed and hard seaming shall be done on bench, as far as practicable, with proper sheet metal working tools. Angles of bends and folds for interlocking metal shall be made with full regard to expansion and contraction to avoid buckling and to avoid damaging metal surfaces.
- .3 Fabricate all possible work in shop in maximum 2400 mm lengths by brake forming, bench cutting, drilling and shaping. Match existing profiles where metal flashing is to be repaired.

- .4 Hem exposed edges on underside 13 mm. Mitre and seal corners with sealant.
- .5 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .6 Dry joints are to be tight but not dented so as to permit slight adjustments of sheets and yet remain watertight.
- .7 Lock seams at all corners.
- .8 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.
- .9 Supply all accessories required for installation of sheet metal work of this Section. Fabricate accessories of same material to which they will be used.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: Comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 SHEET METAL FLASHING INSTALLATION

- .1 Install sheet metal flashings at copings, walls, expansion joints, roof openings and other components required to protect the membrane flashings as shown on the drawings or otherwise required. Where not indicated, follow applicable CRCA 'FL' series details.
- .2 Install continuous concealed starter strips at all exterior faces. Install cleats between lock joints and as indicated to permanently hold flashing in place. Install hook strip fasteners with 2 fasteners per cleat.
- .3 Sheet metal work shall be installed to cover the entire area it protects and shall be watertight under all service and weather conditions. Install in a uniform manner, true to line, free of dents, warping and distortion.
- .4 Back-paint sheet metal that comes into contact with another kind of metal, masonry or concrete with bituminous paint at the rate of 0.15 L/m².
- .5 Install sheet metal with concealed fasteners at lock joints. Exposed fastening will only be permitted with the approval of the Departmental Representative. When exposed fasteners are shown, space all fasteners evenly in an approved manner. Use lead plugs and screws with neoprene washers where fasteners are exposed, otherwise use concrete drive fasteners where metal flashings are installed over concrete masonry.
- .6 Install weather barrier membrane under sheet metal where indicated.

- .7 Join sheet metal by “S” lock seams, to permit thermal movement. Seal all fasteners and completely fill all joints with Type ‘B’ sealant as flashing is being installed. Clean off all excessive visible material subsequent to installation.
- .8 When flashing is being installed in more than one piece, offset joints in adjacent flashings by approximately 50%.
- .9 Form inside and outside corners by means of locked seams. Do not use pop rivets unless accepted by Departmental Representative.
- .10 Slope all metal to interior of roof area to maintain slope, unless otherwise indicated. Do not form open joints or pockets that fail to drain water.
- .11 Where existing reglets are to be re-used, remove existing sealant and re-cut to conform to the size requirements specified herein.

3.3 SHEET METAL CLADDING INSTALLATION

- .1 Provide all required accessories to complete the installation at all corners, terminations and projections. Ribs shall be installed horizontally and metal sections shall overlap by a minimum of 150 mm. Use the longest lengths possible to minimize the number of joints.
- .2 Secure Z-girts to existing substrate vertically. Install one Z-girt at the wall head and one at the wall base and at a maximum spacing of 900 mm between bars to provide suitable substrate for cladding and flashing anchorage. Anchor Z-girt to substrate at 300 mm maximum c/c.
- .3 Siding to be secured to Z-girts with self-taping screws complete with neoprene washers. Colour to match siding. Fasteners shall be installed between each rib and at a consistent elevation.
- .4 Install siding in accordance with design intent and as indicated on shop drawings.
- .5 All perimeters shall be covered with specified sheet metal flashing and caulked at termination. Include for all J-trim, U-trim and closures at penetrations and drip edges at base.

3.4 CLEANING

- .1 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment. Remove and replace all sheet metal sections that received surface damage or scratches during fabrication, delivery or installation.
- .2 For scratches and scuffs to be retained in the new installation, use touch up paint recommended by the metal material supplier.
- .3 Leave work areas clean, free from grease, finger marks and stains.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 06 10 53 – Miscellaneous Rough Carpentry.
- .2 Section 07 52 00 - Modified Bituminous Membrane Roofing.
- .3 Section 07 62 00 – Sheet Metal Flashing and Trim.
- .4 Section 22 05 11 – Plumbing and Drainage.

1.2 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM C920-18, Standard Specification for Elastomeric Joint Sealants.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS 2015)
 - .1 Safety Data Sheets (SDS).

1.3 COORDINATION

- .1 Coordinate work of this Section with Related Work specified in other Sections to ensure construction schedule is maintained and watertightness and protection of the building and finished work is maintained at all times.

1.4 EXAMINATION

- .1 Do not commence work until surface to be covered has been inspected.
- .2 Inspect work and advise the Consultant of conditions that would adversely affect the work of this trade.
- .3 Commencement of work is proof that the Contractor has accepted surfaces as satisfactory for intended operations and accepts responsibility for appearances and performance of completed work.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver and store materials in original wrappings and containers with manufacturer's seals and labels, intact. Protect from freezing, moisture, water and contact with ground or floor.

1.6 ENVIRONMENTAL AND SAFETY REQUIREMENTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS 2015) regarding use, handling, storage and disposal of hazardous materials; and regarding labeling and provision of safety data sheets acceptable to Labour Canada.

- .2 Conform to manufacturer's recommended temperatures, relative humidity and substrate moisture content for application and curing of sealants including special conditions governing use.
- .3 In confined spaces provide portable supply of outside air and exhaust fans to ensure fumes will not impact workmen or building occupants.
- .4 Compatibility is essential in use of any materials that will be compatible when incorporated in finished assembly.

Part 2 Products

2.1 MATERIALS

- .1 Sealants acceptable for use on this project must be listed on CGSB Qualified Products List issued by CGSB Qualification Board for Joint Sealants. Where sealants are qualified with primers use only these primers.
- .2 Modified bitumen sealant (Sealant Type 'A'):
 - .1 For penetration and terminations of bituminous and modified bituminous membrane: To CAN/CGSB-37.5. As recommended by membrane manufacturer.
- .3 Urethanes one part (Sealant Type 'B'):
 - .1 Non-sag: To ASTM C920, Type S, Class 25 or higher, use NT.

Type		Use	Movement Capability Class		
S	Single Component	T	Traffic	Class 100/50	100% expansion
M	Multi-Component	NT	Non-traffic		50% compression
Grade		I	Immersed	Class 50	50%
P	Pourable	M	Mortar	Class 35	35%
NS	Non-sag	G	Glass	Class 25	25%
		O	Other	Class 12.5	12.5%

2.2 JOINT CLEANER

- .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.

2.3 PRIMER

- .1 As recommended by sealant manufacturer for specific substrate adhesion.

Part 3 Execution

3.1 PROTECTION

- .1 Protect installed work of other trades from staining or contamination.

3.2 PREPARATION OF JOINT SURFACES

- .1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.
- .2 Clean bonding joint surfaces of harmful substances including dust, rust, oil, grease and other matter, which may impair work.
- .3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.
- .4 Ensure joint surfaces are dry and frost free.
- .5 Prepare surfaces in accordance with manufacturer's directions.

3.3 APPLICATION

- .1 Sealant - General:
 - .1 Apply sealant when air and substrate temperatures are not forecast to be less than minimum recommended by manufacturer. Do not work during inclement weather. Perform all work in accordance with manufacturer's written instructions.
 - .2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.
 - .3 Apply sealant in continuous beads.
 - .4 Apply sealant using gun with proper size nozzle.
 - .5 Use sufficient pressure to fill voids and joints solid.
 - .6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets and embedded impurities.
 - .7 Tool exposed surfaces before skinning begins to give slightly concave shape.
 - .8 Remove excess compound promptly as work progresses and upon completion.
 - .9 The use of liquid tooling aids, such as soapy water or alcohols, are prohibited as they may impact effective sealant cure, adhesion and potentially cause aesthetic issues.
- .2 Sealant Type 'A':
 - .1 Install sealant Type 'A' to the top of membrane flashings where required or as shown on drawings. Modified sealant to be installed around finished flashings at all protrusions including soil stacks, sleeves, pitch boxes and fasteners securing membrane to walls.
 - .2 Apply sealant Type 'A' with hand trowel to achieve a 25 mm width and minimum 3 mm thickness.
 - .3 Apply sealant Type 'A' immediately after flashings have been installed and are still warm. No membrane flashings shall be left uncovered at the end of any work period. *(Non-compliance with this mandate may result in*

rejection, removal and replacement of the membrane flashings to the affected area).

- .4 Trowel sealant Type 'A' in two directions to ensure proper adhesion to substrate and that all surface irregularities are filled. Tool surface of modified sealant to smooth finish.
 - .5 Install sealant Type 'A' at the underside of drains, metal sleeves and other location where specified on drawings.
- .3 Curing:
- .1 Cure sealants in accordance with sealant manufacturer's instructions.
 - .2 Do not cover up sealants until proper curing has taken place.
- .4 Install sealant Type 'B' at sheet metal terminations.

3.4 CLEANING

- .1 Clean adjacent surfaces immediately and leave work neat and clean.
- .2 Remove excess droppings using recommended cleaners as work progresses.
- .3 Remove masking tape after initial set of sealant.
- .4 Clean all contaminated surfaces to Departmental Representative's acceptance.
- .5 Remove all rubbish and surplus materials from the job site on a daily basis.

3.5 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by joint sealants installation.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 06 10 53 – Miscellaneous Rough Carpentry.
- .2 Section 07 52 00 - Modified Bituminous Membrane Roofing.
- .3 Section 07 92 00 – Joint Sealants.

1.2 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM C547-17. Standard Specification for Mineral Fiber Pipe Insulation.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS 2015)
 - .1 Safety Data Sheets (SDS).

1.3 SUBMITTAL / APPROVAL

- .1 Do not commence work until satisfactory installation of related work has been completed and approved.
- .2 Inspect work and advise Departmental Representative of conditions that would adversely affect the work of this trade.
- .3 Commencement of work is proof that the Contractor has accepted surfaces as satisfactory for intended operations and accepted responsibility for appearance and performance of completed work.
- .4 Defective work resulting from work on unsatisfactory surfaces will be considered the responsibility of those performing the work of this Section.
- .5 Repair damage and inferior work caused by the work of this Contract with materials and finish to match the original to Departmental Representative's approval.
- .6 Submit to the Departmental Representative a list of materials intended for use before they are ordered.
- .7 Provide samples of material without additional cost, to the Departmental Representative for review as requested.

1.4 QUALITY ASSURANCE

- .1 All drain installations, including insert type drains, shall be completed by plumbing subtrades licensed to undertake plumbing work in Ontario.
- .2 Equipment and materials must be new and free of imperfections.

Part 2 Products

2.1 MATERIALS

- .1 All standards, regulations and specifications listed herein are considered to be the latest available edition.
- .2 Compatibility between materials is essential. Use only materials that are known to be compatible when incorporated in a completed assembly.
- .3 Cast iron roof drains, at existing or new drain locations: Cast iron body, under deck clamp and sump receiver to suit roof construction, flashing clamp ring with bearing pan, and cast iron dome.
 - .1 Drain connector:
 - .1 Mechanical connection using double clamp to drain body and rainwater leader.
- .4 Provide control flow weir at all drains unless otherwise indicated. Weir to be supplied by drain manufacturer.
- .5 Pipe hangers: Adjustable type wrought iron design to allow pipe movement and insulation to pass unbroken through hanger.
- .6 Insulation for pipes: 25 mm thick performed type mineral fibre insulation to ASTM C547.
- .7 Insulation for underside of drain: 2-component, 1 kg density polyurethane foam as detailed.
- .8 Insulation covering:
 - .1 Cover pipe insulation with canvas membrane wrap and paint.
 - .2 Where exposed, use preformed PVC.
- .9 Firestop sealant: Approved by manufacturer for use in fire-rated firestop assembly.
- .10 Firestop insulation: Mineral wool approved by manufacturer for use in fire-rated firestop assembly.

2.2 DRAIN ACCESS DOOR

- .1 New access panels shall be of galvanized steel construction with hinged openings and a decorative flange to cover the ceiling cut edges. Units shall have a factory applied white paint finish. Minimum steel thickness shall be 0.7 mm and have self-locking access.

Part 3 Execution

3.1 PREPARATION

- .1 Inspect surfaces and ensure that:
 - .1 Roof deck is level or sloped to provide proper and complete drainage from the roofing system in conformity to design intent.
 - .2 Existing pipe hangers are in adequate condition to independently support distribution pipes, prior to disconnection of any drains at roof level.
 - .3 Roof drains are set at a level to allow for positive drainage and are connected or capped.
 - .4 Plumbing is accessible and work can be completed as specified. Notify Departmental Representative of any adverse conditions.
 - .5 Existing roof drains are open and functioning properly.
 - .6 For costing and practical purposes, location of new drains and plumbing are approximate and should be considered accurate within 3 m. Advise Departmental Representative of variances and adjust locations as required to facilitate installation without additional cost, to the Departmental Representative's approval.
- .2 Contractor shall advise Departmental Representative in the event that the existing system or materials do not meet current code requirements.
- .3 Unless indicated otherwise, the plumbing sub-trade shall be responsible for the removal and reinstatement of furniture, plants and interior equipment, excluding computers, monitors, copiers and the like.
- .4 Contractor to provide interior protection to all areas where plumbing work is being completed. Provide sufficient dust and debris protection for the temporary removal of ceiling tiles, and include for any supplemental clean up to return interiors to pre-construction conditions.
- .5 Remove all ceiling panels and plaster finish to provide access to the work. Re-install and make good all existing finishes to match original materials and conditions. Repainting of surfaces shall include all ceiling all wall areas up to a break in plane, unless otherwise indicated on drawings.
- .6 Remove and discard all existing drains and plumbing not designated for re-use. Notify Departmental Representative of any hazardous materials encountered.
- .7 In poured concrete decks, scan roof deck for presence of reinforcing steel or cast-in conduits, prior to coring.

3.2 INSTALLATION AT EXISTING DRAIN LOCATIONS

- .1 Increase openings in structures to facilitate plumbing as required.
- .2 Join pipe by means of rubber gaskets or mechanical couplings.
- .3 Fill voids around drain opening on concrete or lightweight concrete decks with quick dry concrete grout flush with top and bottom of deck.

- .4 Where area is inaccessible to install couplings, advise and request Departmental Representative to obtain a ruling on acceptability. Where directed by Departmental Representative, install anti-backflow seals to match pipe size and secure in place.
- .5 Extend insulation from pipes to drain hub. Cover with pipe wrapping and finish to general standards. If blanket insulation is used, ensure that all insulation fits tight to drain hub. Seal overlaps, edges and joints with reinforced vapour proof tape suitable to permanently hold insulation in place. Alternatively, in conformance with drawings, protect hubs with spray foam insulation, minimum thickness 38 mm unless otherwise specified or shown. Provide metal protection pan over deck as detailed.
- .6 If the existing pipe is not insulated, install insulation covering on horizontal and vertical sections of drainage pipes, minimum 3 m from drain. Ensure all seams are tight fitting, overlap and sealed to design intent.
- .7 Install PVC covering over insulated piping where plumbing is exposed on the interior of the building.
- .8 All ceilings to be restored to original condition. Suspended ceilings to be restored to original condition and painted to match existing colour and finish. If paint colour cannot be matched, entire wall or ceiling area to be painted to blend into existing room to Departmental Representative's approval.
- .9 Restore all existing surfaces affected by work of this trade to match existing material and finish.
- .10 Ensure each roof is provided with operational drainage at the end of each work day.

3.3 DRAIN ACCESS DOOR

- .1 Cut access opening in existing finished ceiling in most optimum location to access new drain/piping or as indicated on drawings. Cut edges neatly and install hatch, ensuring that door opening is in the direction of the larger area of ceiling space to facilitate ease of future ladder use. Install hatch plumb level with decorative flange flush with ceiling and anchor in position in accordance with manufacturers printed instructions.

3.4 PLUMBING VENT MODIFICATIONS

- .1 Cut down or extend existing soil stacks to a minimum height of 300 mm above finished roof surface. Extensions to match existing material and connections to be made with mechanical joint couplings.

3.5 PIPING TEST

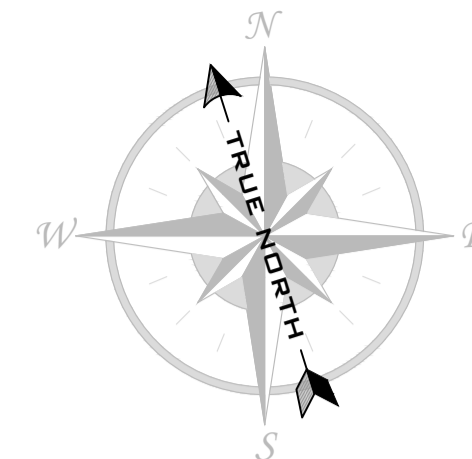
- .1 Perform water tests before restoring interior ceilings and finishes.
- .2 Install plumbing line plugs below the level of connection and water test new plumbing installation. Correct all leaks.

- .3 Make leaks watertight while systems are still under test. If this is impossible, remove and refit defective parts. Caulking of threaded joints will not be permitted.
- .4 After leaks have been repaired, repeat tests as often as necessary to obtain approval and to ensure watertightness of each system.
- .5 Correct level of drains or pipes, if roof or pipes hold water.

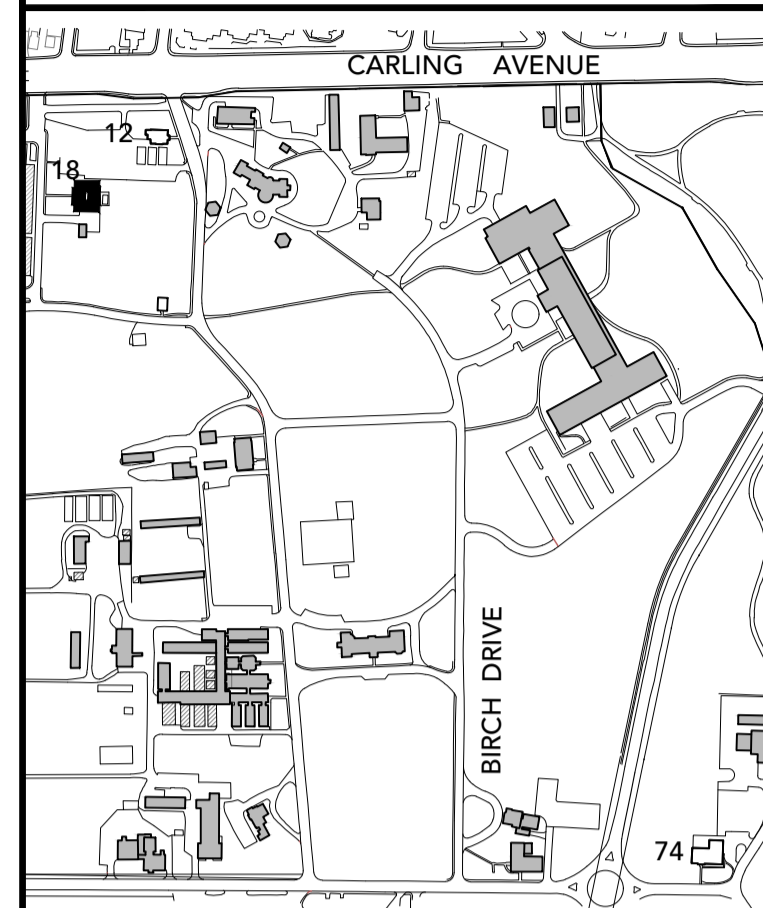
3.6 FINISH

- .1 Reset existing ceiling finishes removed to execute work of this Contract.
- .2 Restore and repair all existing surfaces affected by the work to match existing materials and finish.
- .3 Re-paint entire ceiling or walls where it is required to make patching work un-disguisable with existing surfaces.

END OF SECTION



Public Works and Government Services Canada
Architectural and Engineering Services
Ontario Region
Travaux publics et Services gouvernementaux Canada
Services d'architecture et de génie
Région de l'Ontario



300 - 150 Katimavik Road, Ottawa, Ontario, K2L 2N2
T: 613-831-7293 | F: 613-831-3812 | www.fsaeng.com

revision	description	date
03	FOR TENDER/ POUR APPEL D'OFFRE	2021-09-15
02	FOR 99% REVIEW/ POUR RÉVISION DE 99%	2020-08-28
01	FOR 66% REVIEW/ POUR RÉVISION DE 66%	2020-08-21

Do not scale drawings.
Verify all dimensions and conditions on site and immediately notify the engineer of all discrepancies.

A	Detail No. No. du détail
B	drawing no. - where detail required dessin no. - où détail exigé
C	drawing no. - where detailed dessin no. - où détaillé

project title
titre du projet
**RÉFECTION DE TOITURE
ROOF REPLACEMENT, CEF
BUILDINGS 12, 18 & 74
BÂTIMENTS 12, 18 ET 74**

drawing title
titre du dessin
**ROOF PLAN
PLAN DU TOIT
BUILDING 18 / BÂTIMENT 18**

drawn by
dessiné par
ROEL PARKER

designed by
conçu par
MICHEL PAULIN

approved by
approuvé par
MICHAEL BARRINGTON

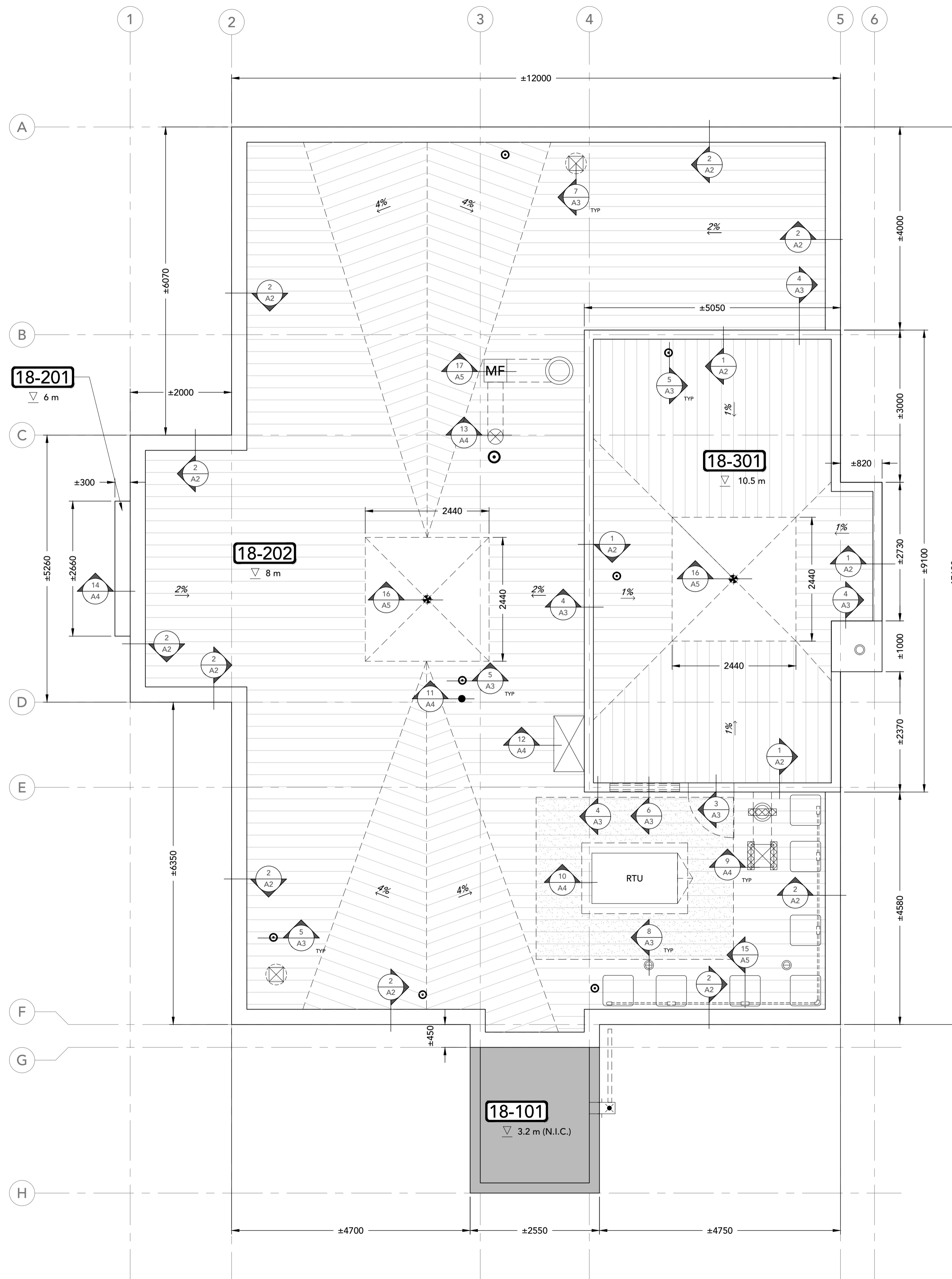
tender
soumission
FOR 99% REVIEW
POUR RÉVISION DE 99%

project manager
administrateur
de projets

project date
date du projet
2020-08-28

project no.
no. du projet
CEF20 0008

drawing no.
dessiné no.
A1



LEGEND	
SYMBOL	DESCRIPTION
	BALLASTED GUARDRAIL GARDE-CORPS SUSPENDU
	B-VENT ÉVENT DE TYPE B
	BELL EXHAUST VENTILATEUR À CLOCHE
	BUILT-IN ROOFTOP UNIT UNITÉ MÉCANIQUE
	BUILT-IN SLEEPER DORMANT ENCASTRÉ
	DOOR PORTE
	LOUVRE PERSIENNE
	MECHANICAL FAN VENTILATEUR MÉCANIQUE
	MODULAR CURB RELEVÉ MODULAIRE
	PLUMBING VENT ÉVENT DE PLOMBERIE
	ROOF DRAIN WITH SUMP DRAIN DE TOIT AVEC PENTE
	WALKWAY MEMBRANE TROITTOIR DE MEMBRANE
	SCUPPER WITH DOWNSPOUT GARGOUILLE AVEC DESCENTE PLUVIALE
	ROOF NUMBER AND ELEVATION NUMÉRO DE TOIT ET ÉLEVATION
	GUY WIRE ANCHOR POINT D'ANCRAGE POUR ÉVANT
	DUCT EXIT ENTRÉ DU CONDUIT D'AIR
	CRICKET ISOLANT EN PENTE
	EXTENT AND DIRECTION OF SLOPED INSULATION SURFACE ET INCLINAISON DE L'ISOLANT DE PENTE

ROOF PLAN - BUILDING 18 / PLAN DU TOIT - BÂTIMENT 18
1:50

03	FOR TENDER/ POUR APPEL D'OFFRE	2021-09-15
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DÉTAILS**

drawn by
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approved by
approuvé par
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soumission
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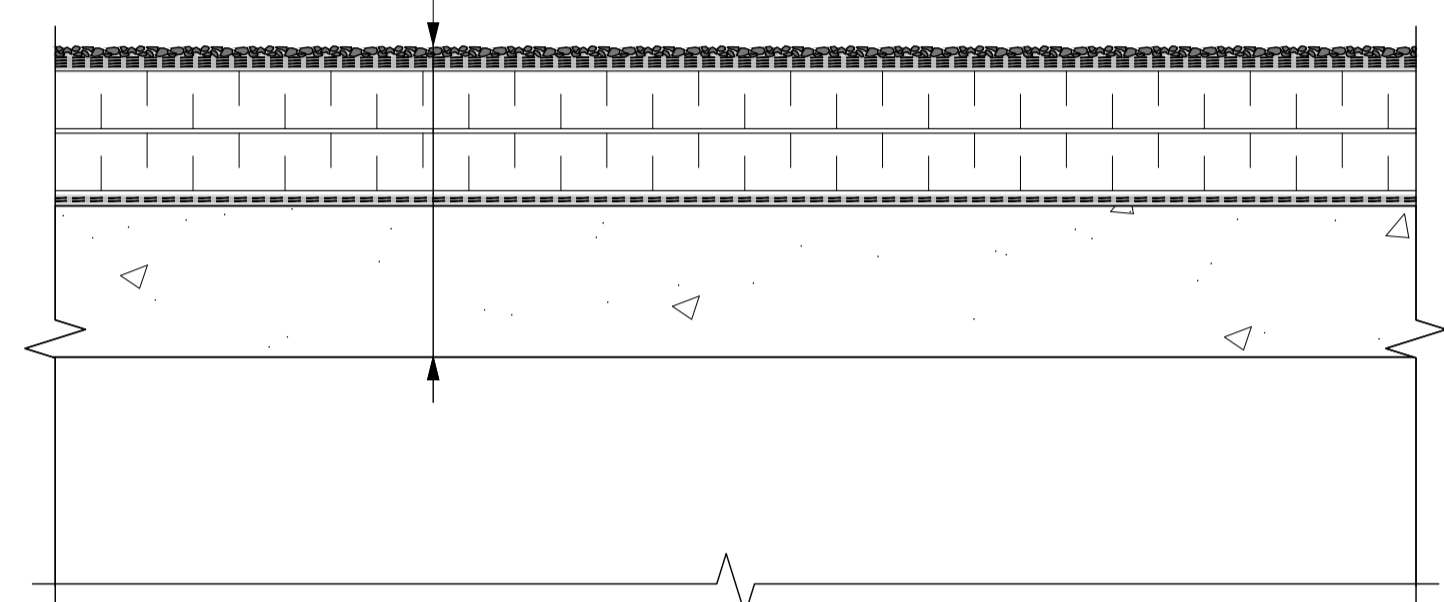
project manager
administrateur
de projets

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2020-08-28

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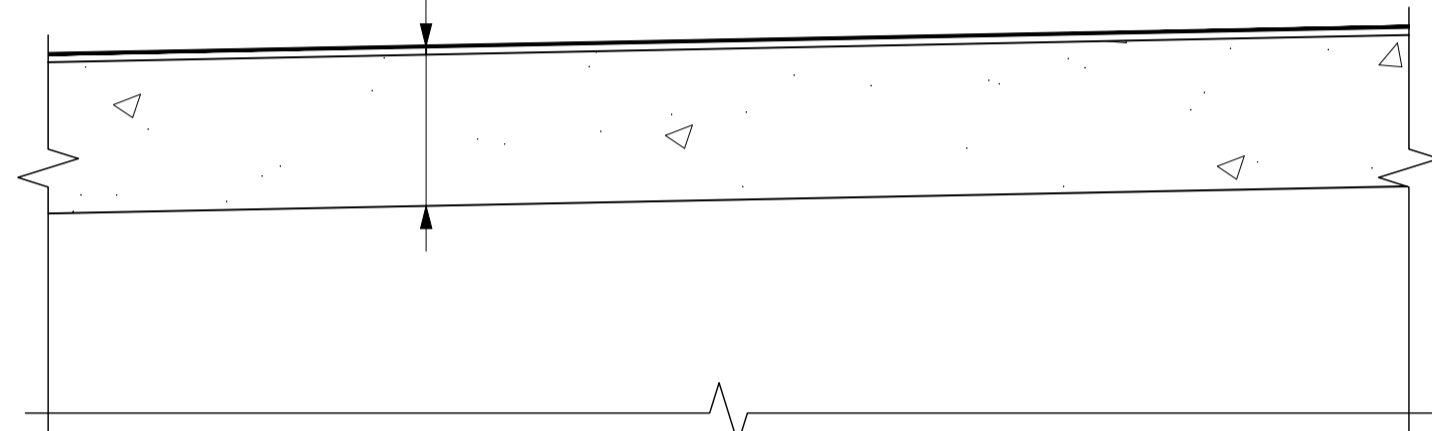
drawing no.
dessiné no.
A2

EXISTING ROOF SYSTEM E5 / SYSTÈME DE TOITURE EXISTANT E1:
- 4-PLY BUR MEMBRANE WITH GRAVEL / MEMBRANE
MULTICOUCHE DE 4 PLUS AVEC GRAVIER
- 38 mm FIBREGLASS INSULATION / ISOLANT DE FIBRE DE VERRE DE 38 mm
- 38 mm FIBREGLASS INSULATION / ISOLANT DE FIBRE DE VERRE DE 38 mm
- 2-PLY BUR VAPOUR BARRIER MEMBRANE / PARE-VAPEUR BICOUCHE
- CONCRETE DECK / PONTAGE DE BÉTON



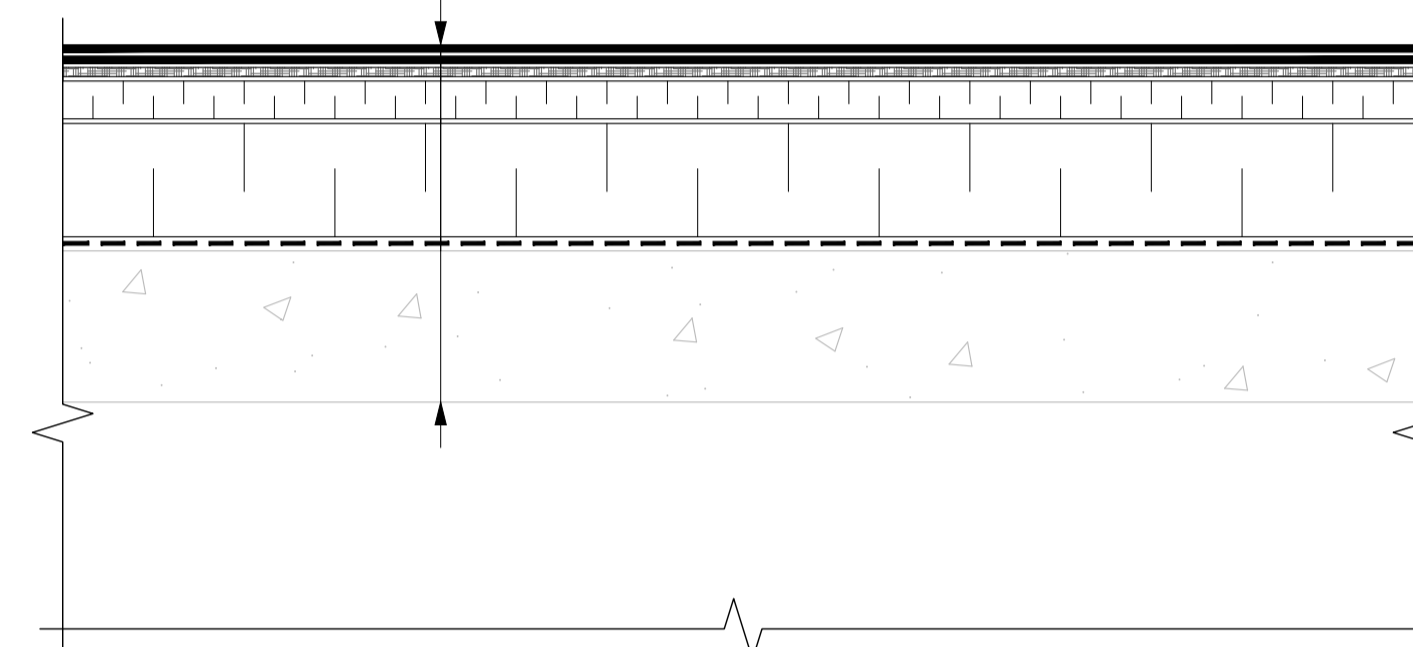
E1 EXISTING ROOF SYSTEM E5 / SYSTÈME DE TOITURE EXISTANT E1
A2 1:5 ROOF AREAS 18-202 & 18-301 / BASSINS 18-202 ET 18-301

EXISTING ROOF SYSTEM E6 / SYSTÈME DE TOITURE EXISTANT E6:
- COPPER SHEET / FEUILLE DE CUIVRE
- SLOPED CONCRETE DECK / PONTAGE DE BÉTON INCLINÉ



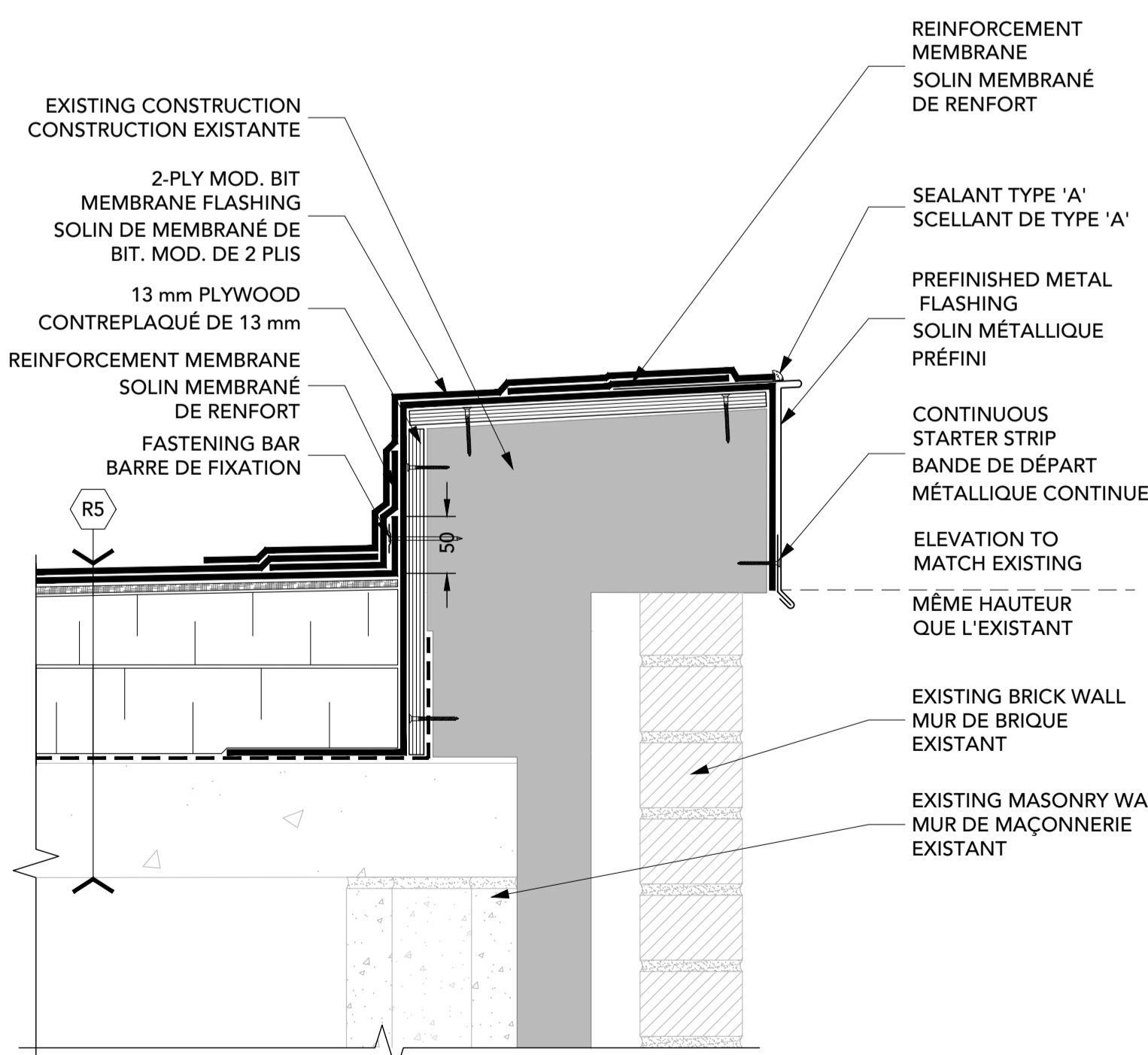
E2 EXISTING ROOF SYSTEM E6 / SYSTÈME DE TOITURE EXISTANT E6
A2 1:5 ROOF AREA 18-201

TYPICAL ROOF SYSTEM R5 / SYSTÈME DE TOITURE TYPIQUE R1:
- 2-PLY MOD. BIT. MEMBRANE/MEMBRANE BICOUCHE EN BITUME MODIFIÉ
- 6 mm OVERLAY BOARD/PANNEAU DE PROTECTION DE 6 mm
- SLOPED POLYISO INSULATION/ISOLANT DE POLYISOCYANURATE EN PENTE
- 75 mm POLYISO INSULATION/ISOLANT DE POLYISOCYANURATE DE 75 mm
- 1-PLY AIR/VAPOUR BARRIER MEMBRANE/
MEMBRANE PARE-AIR/PARE-VAPEUR D'UN PLI
- EXISTING CONCRETE DECK/PONTAGE DE BÉTON EXISTANT



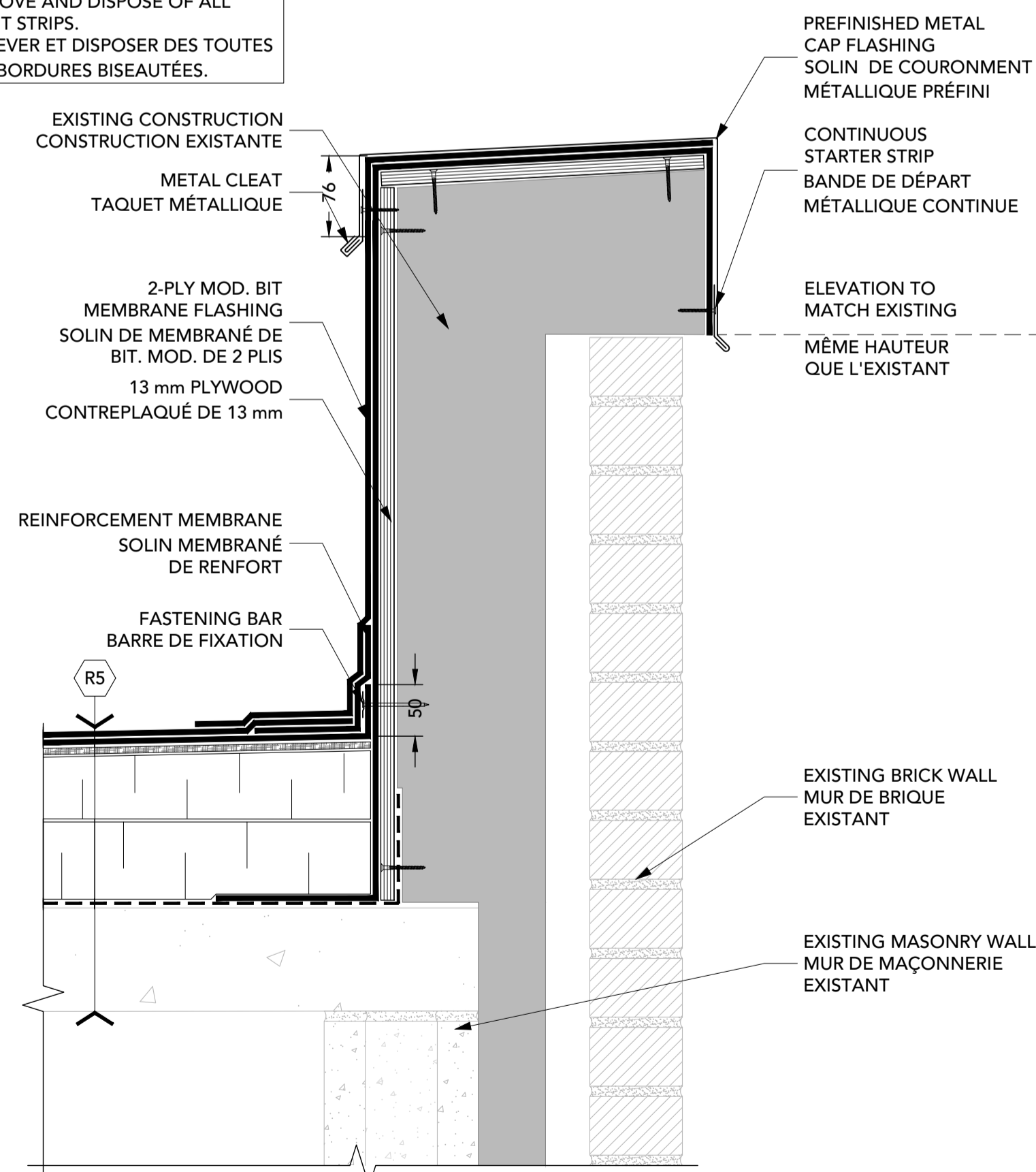
R1 TYPICAL ROOF SYSTEM R5 / SYSTÈME DE TOITURE TYPIQUE R1
A2 1:5 ROOF AREAS 18-202 & 18-301 / BASSINS 18-202 ET 18-301

NOTE:
REMOVE AND DISPOSE OF ALL
CANT STRIPS.
ENLEVER ET DISPOSER DES TOUTES
LES BORDURES BISEAUTÉES.



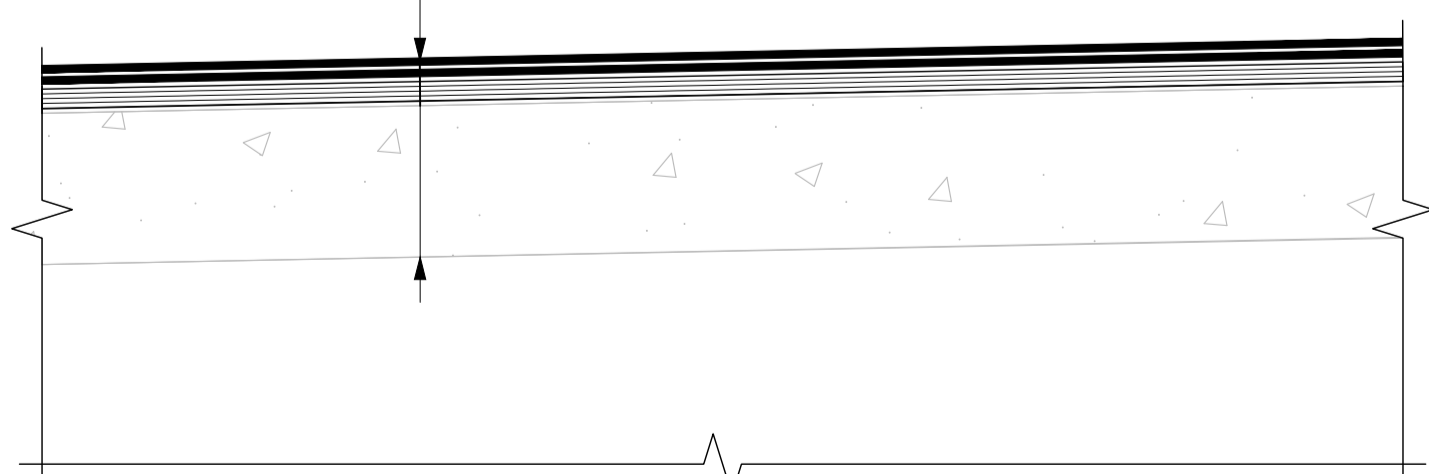
1 PARAPET
A2 1:5

NOTE:
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CANT STRIPS.
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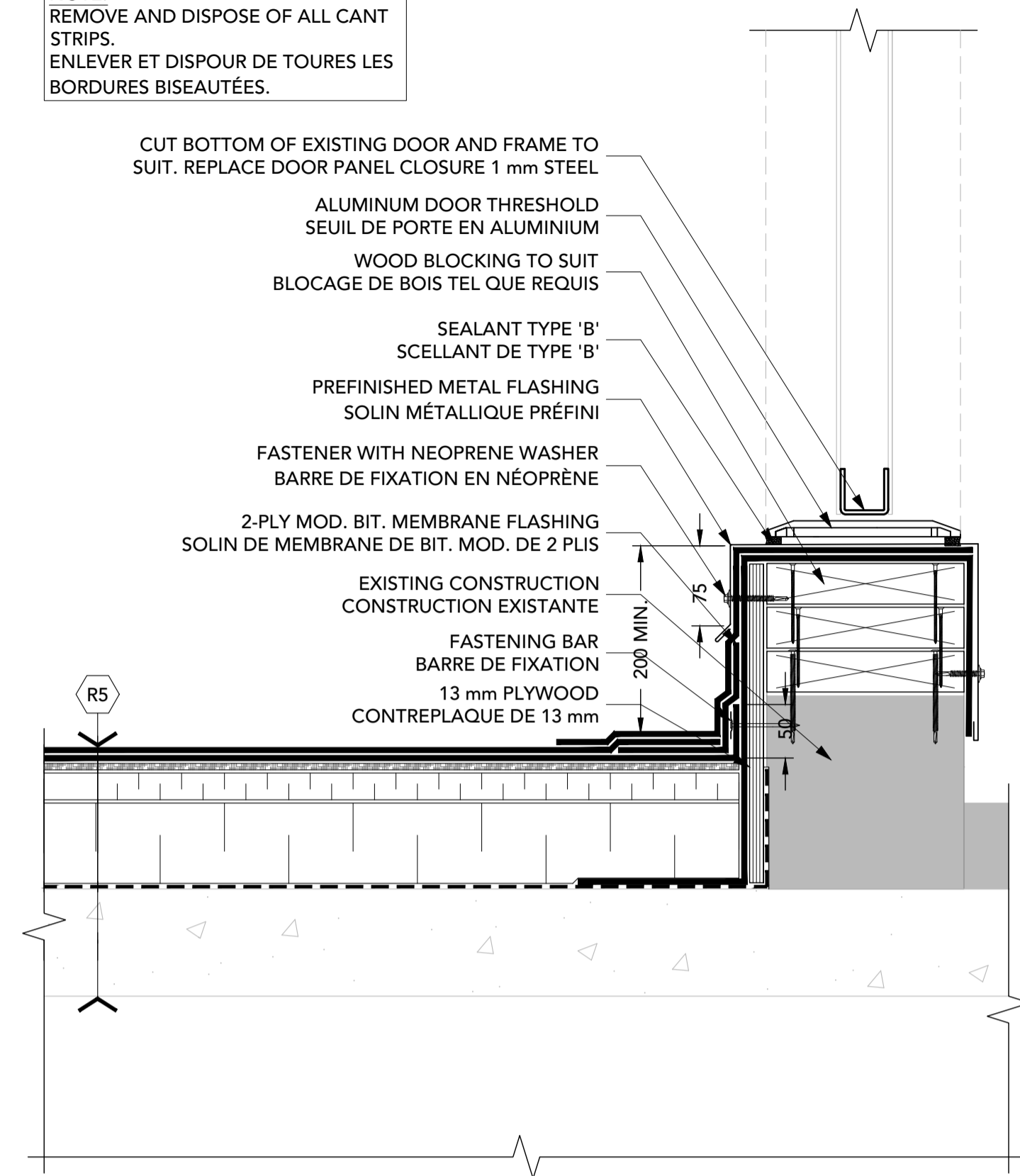
2 PARAPET
A2 1:5

TYPICAL ROOF SYSTEM/SYSTÈME DE TOITURE TYPIQUE R6:
- MEMBRANE BICOUCHE EN BITUME MODIFIÉ APPLIQUÉE À FROID
- 13 mm PLYWOOD / CONTREPLAQUÉ DE 13 mm
- EXISTING SLOPED CONCRETE DECK / PONTAGE DE BÉTON INCLINÉ EXISTANT



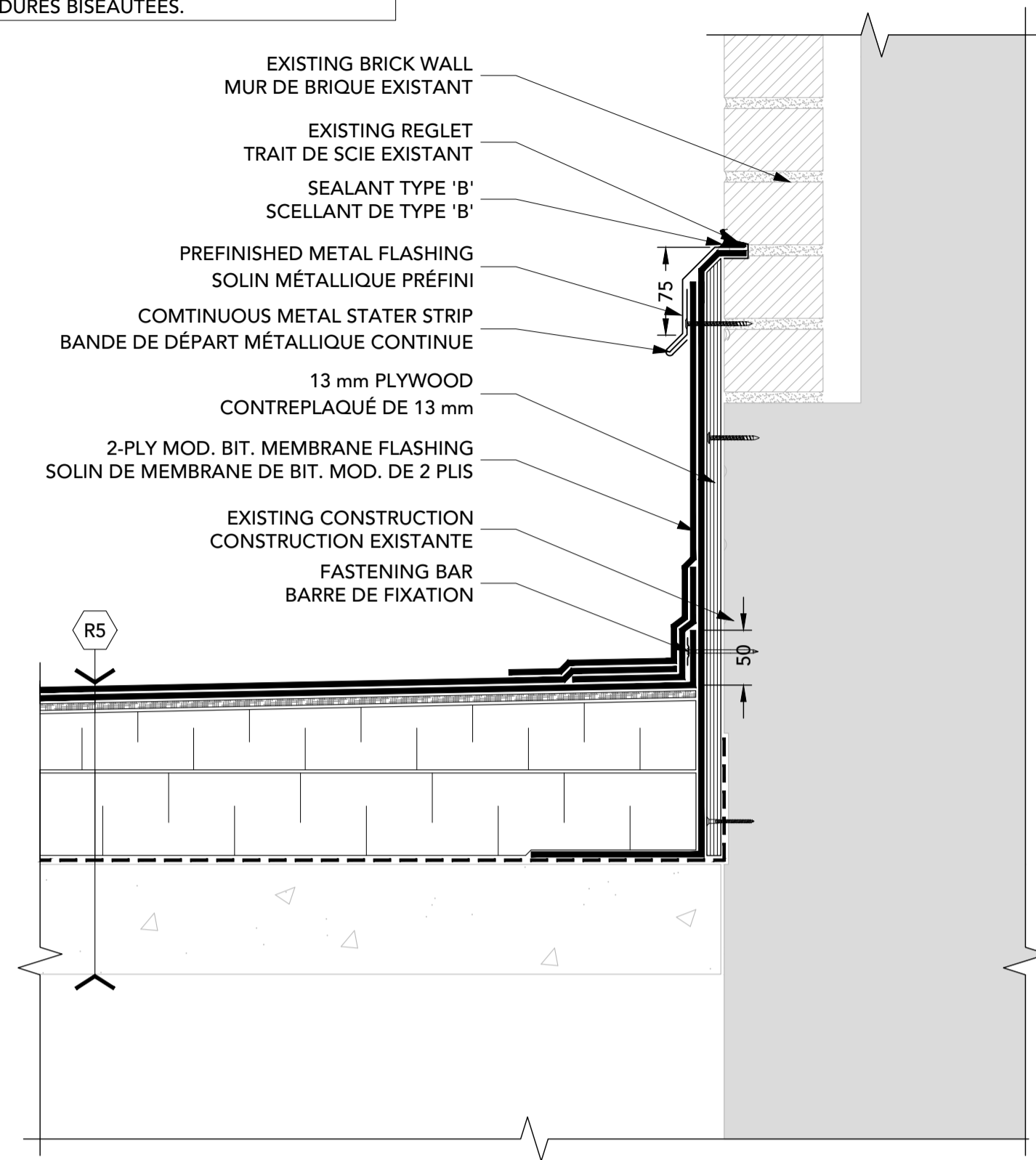
R2 TYPICAL ROOF SYSTEM/SYSTÈME DE TOITURE TYPIQUE R6
A2 1:5 ROOF AREA 18-201 / BASSIN 18-201

NOTE:
REMOVE AND DISPOSE OF ALL CANT STRIPS.
ENLEVER ET DISPOUR DE TOURES LES BORDURES BISEAUTÉES.

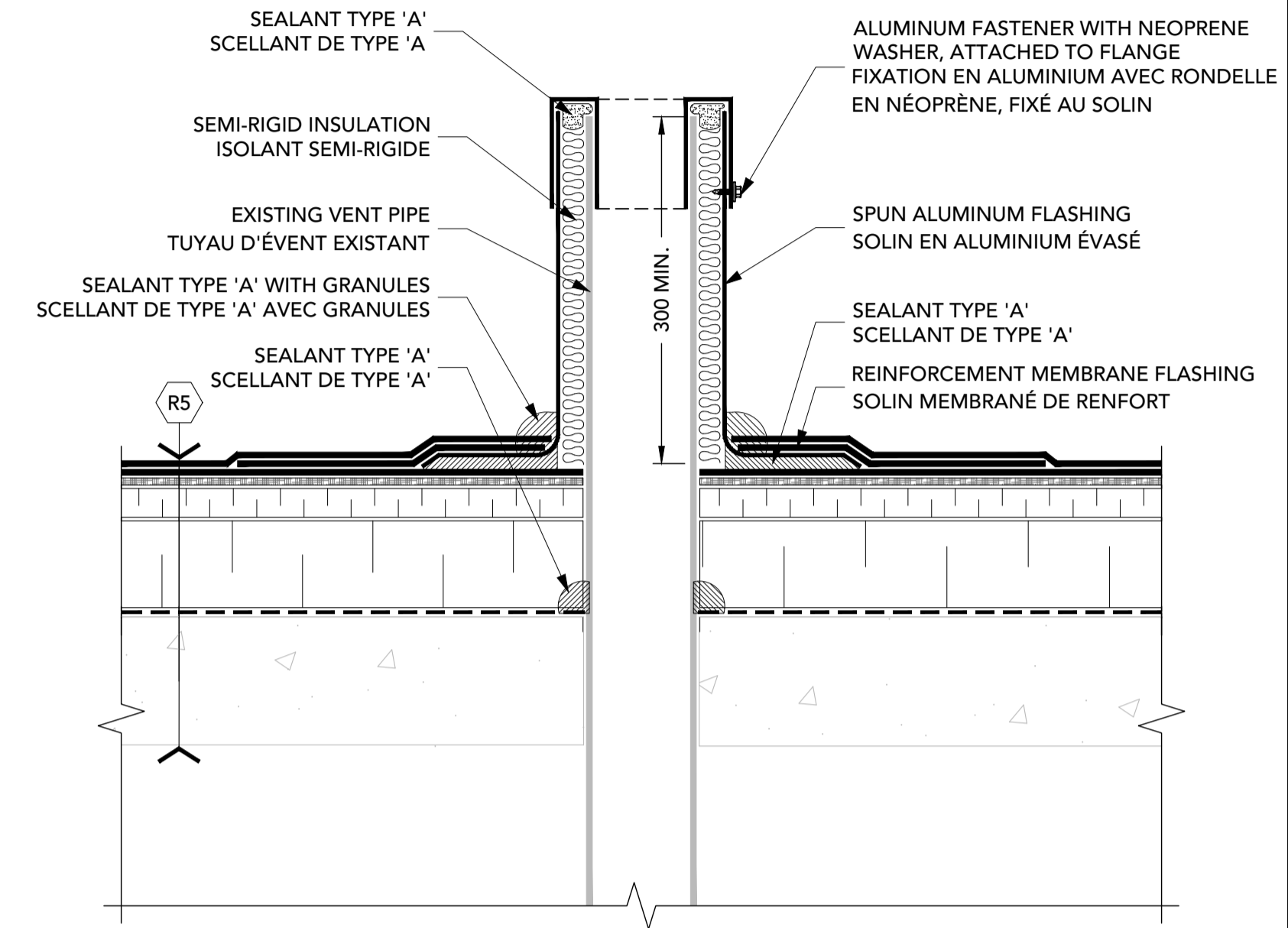


3 DOOR FLASHING/SOLIN DE PORTE
A3 1:5

NOTE:
REMOVE AND DISPOSE OF ALL CANT STRIPS.
ENLEVER ET DISPOUR DE TOURES LES BORDURES BISEAUTÉES.

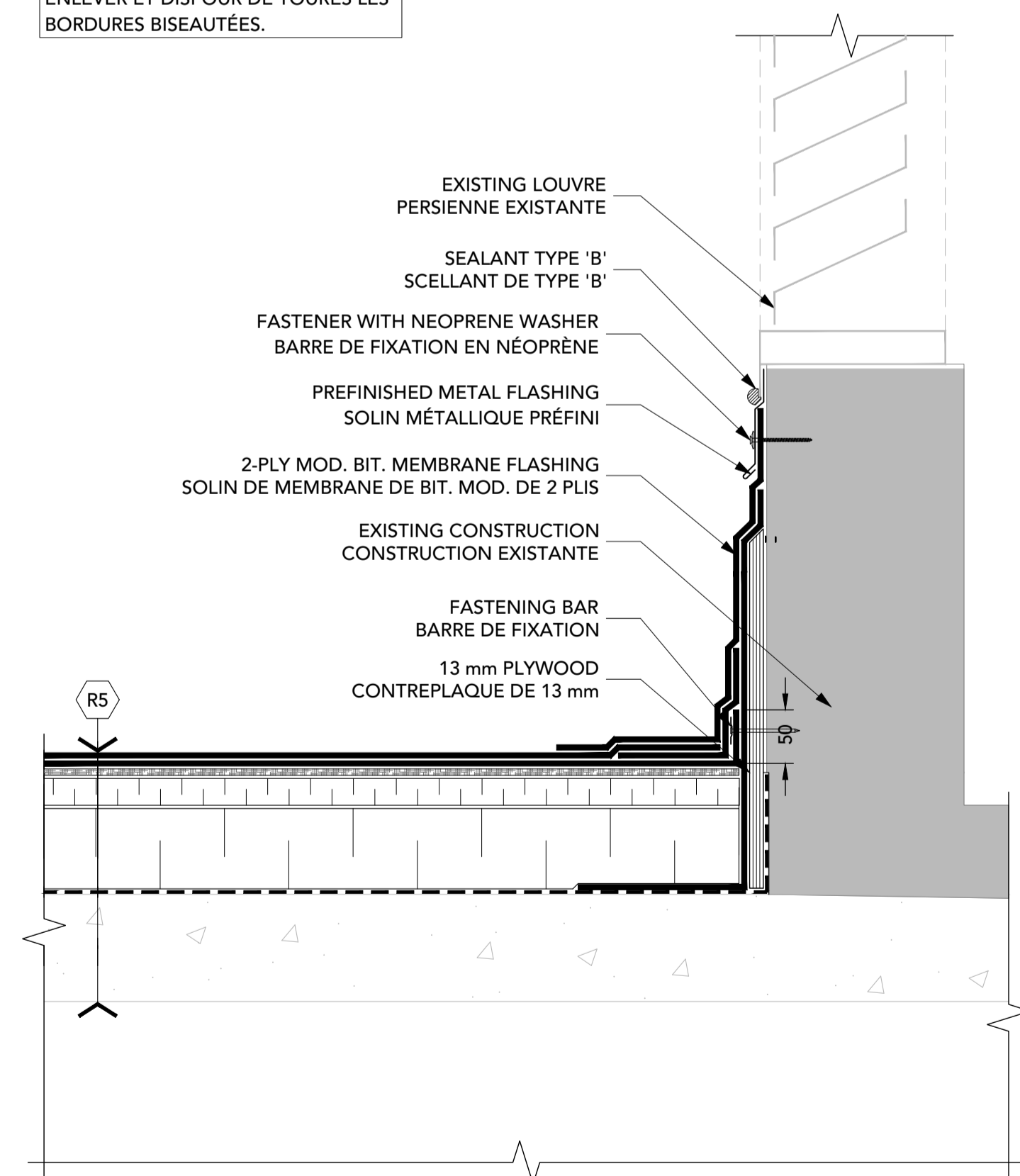


4 WALL FLASHING/SOLIN MURAL
A3 1:5



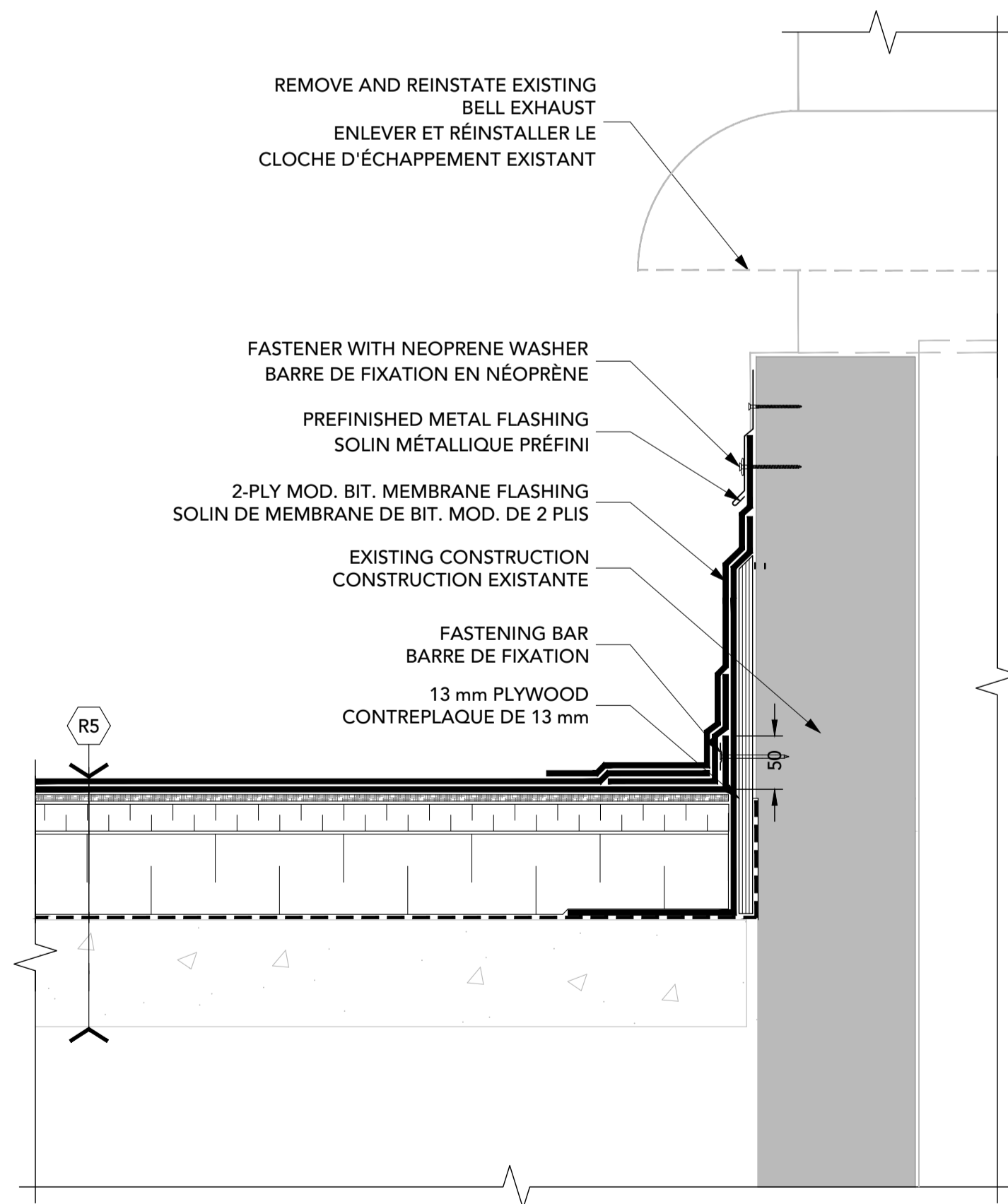
5 PLUMBING VENT/ÉVENT DE PLOMBERIE
A3 1:5

NOTE:
REMOVE AND DISPOSE OF ALL CANT STRIPS.
ENLEVER ET DISPOUR DE TOURES LES BORDURES BISEAUTÉES.

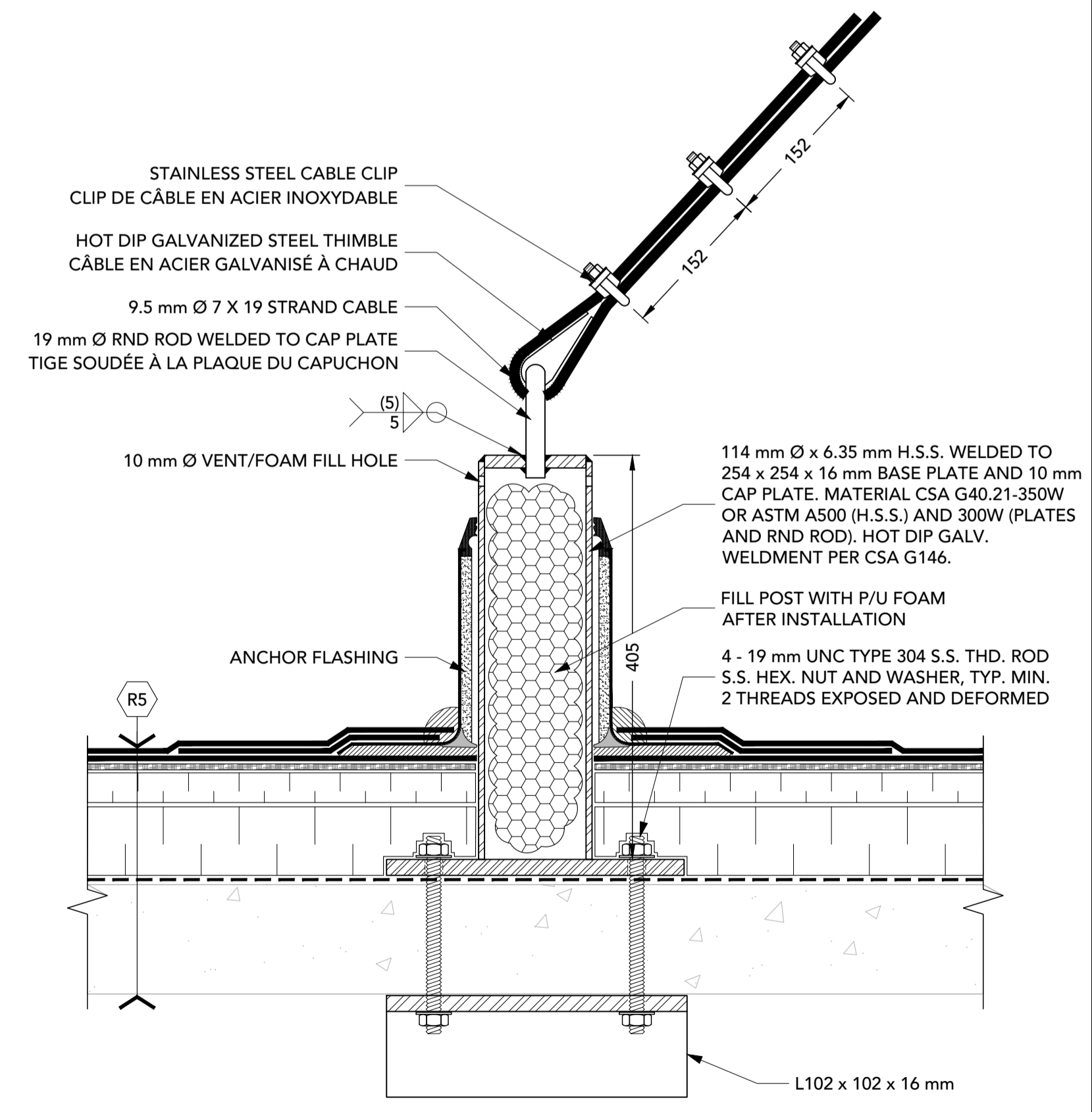


6 LOUVRE/PERSIENNE
A3 1:5

REMOVE AND REINSTATE EXISTING BELL EXHAUST
ENLEVER ET RÉINSTALLER LE CLOCHE D'ÉCHAPPEMENT EXISTANT



7 BELL VENT/CLOCHE D'ÉCHAPPEMENT
A3 1:5



8 ROOF ANCHOR/POINT D'ANCRAGE AU TOIT
A3 1:5

revision	description	date
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BÂTIMENTS 12, 18 ET 74

drawing title
titre du dessin

DETAILS
DÉTAILS

drawn by
dessiné par ROEL PARKER

designed by
conçu par MICHEL PAULIN

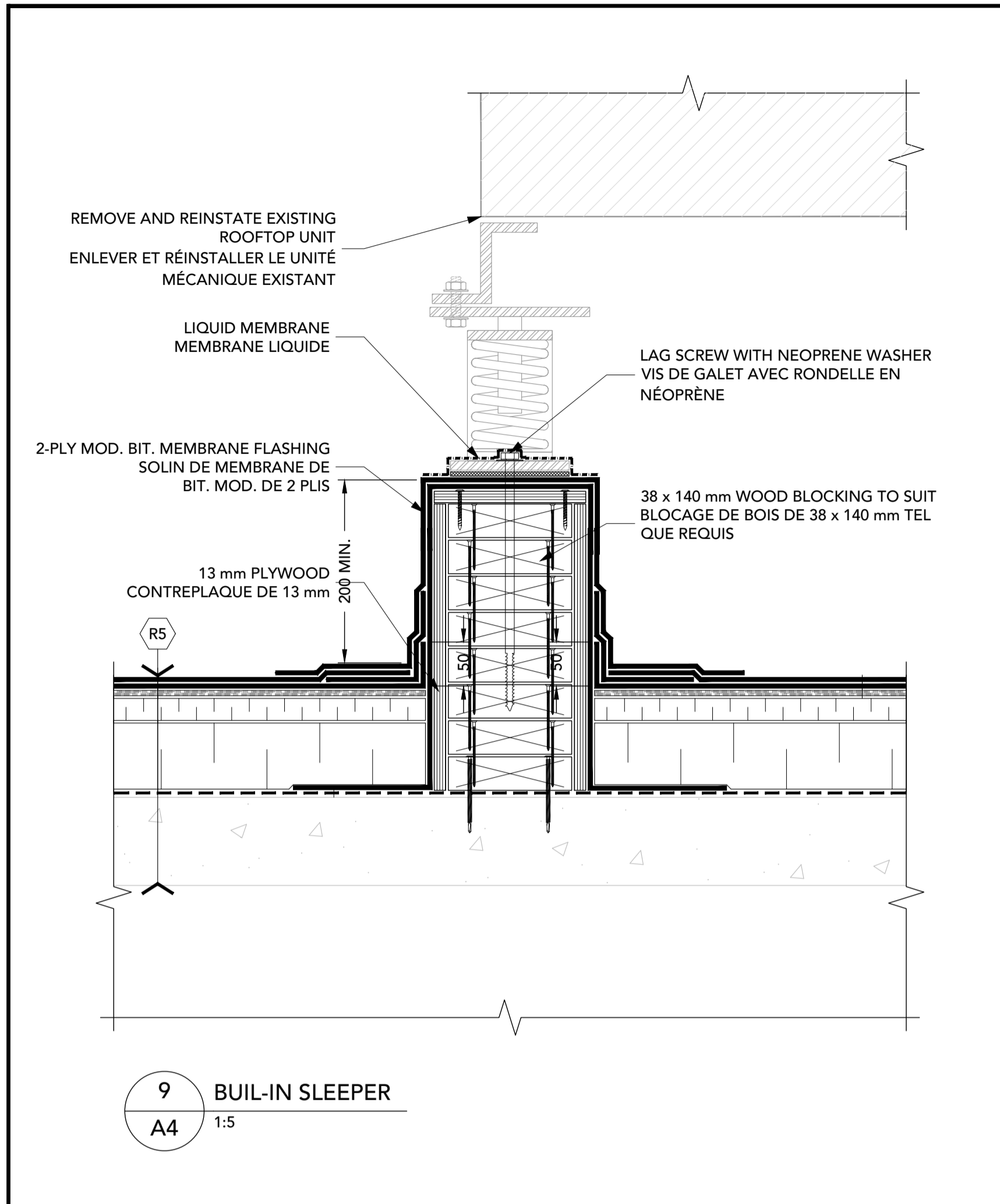
approved by
approuvé par MICHAEL BARRINGTON

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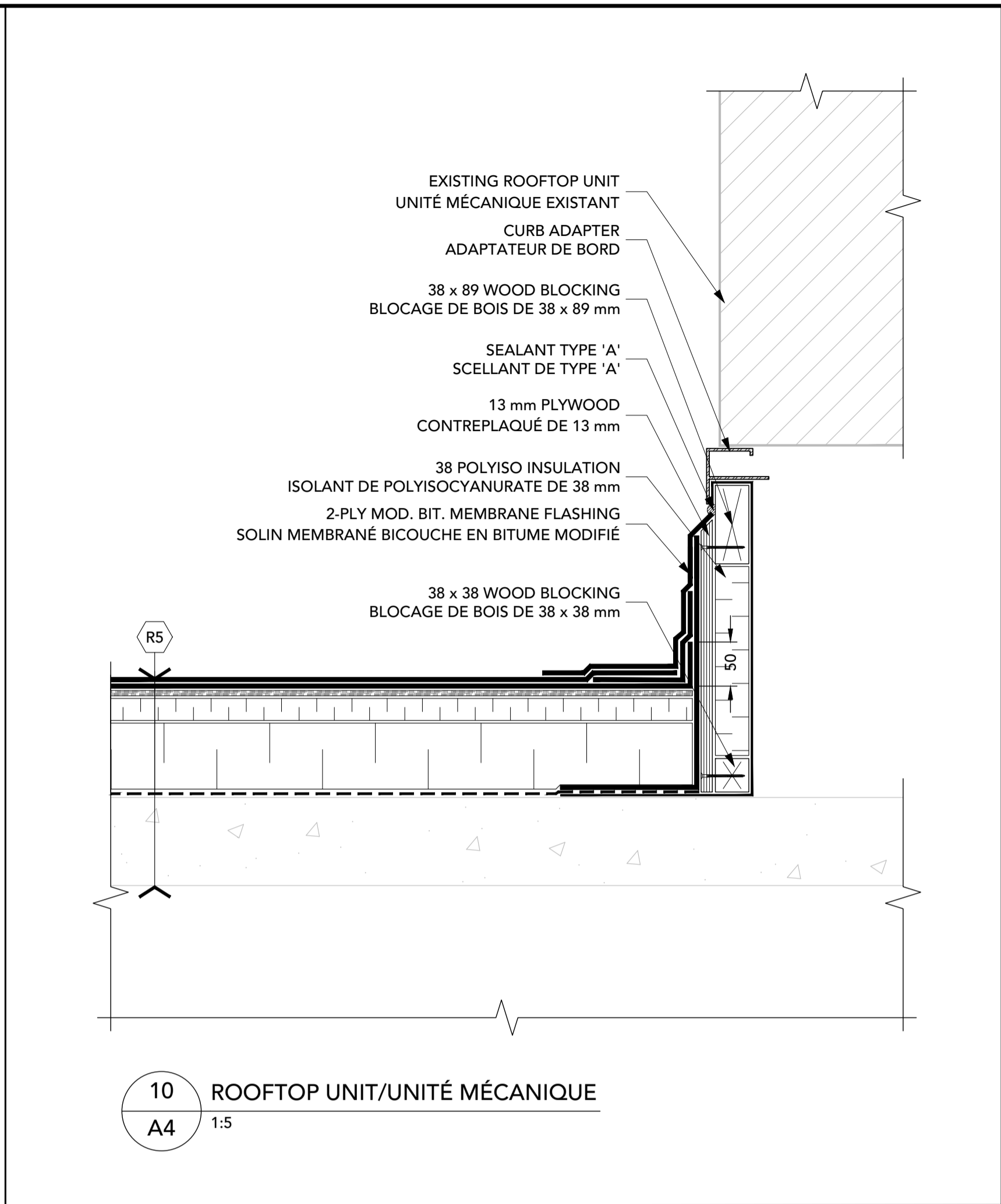
project date
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project no.
no. du projet CEF20 0008

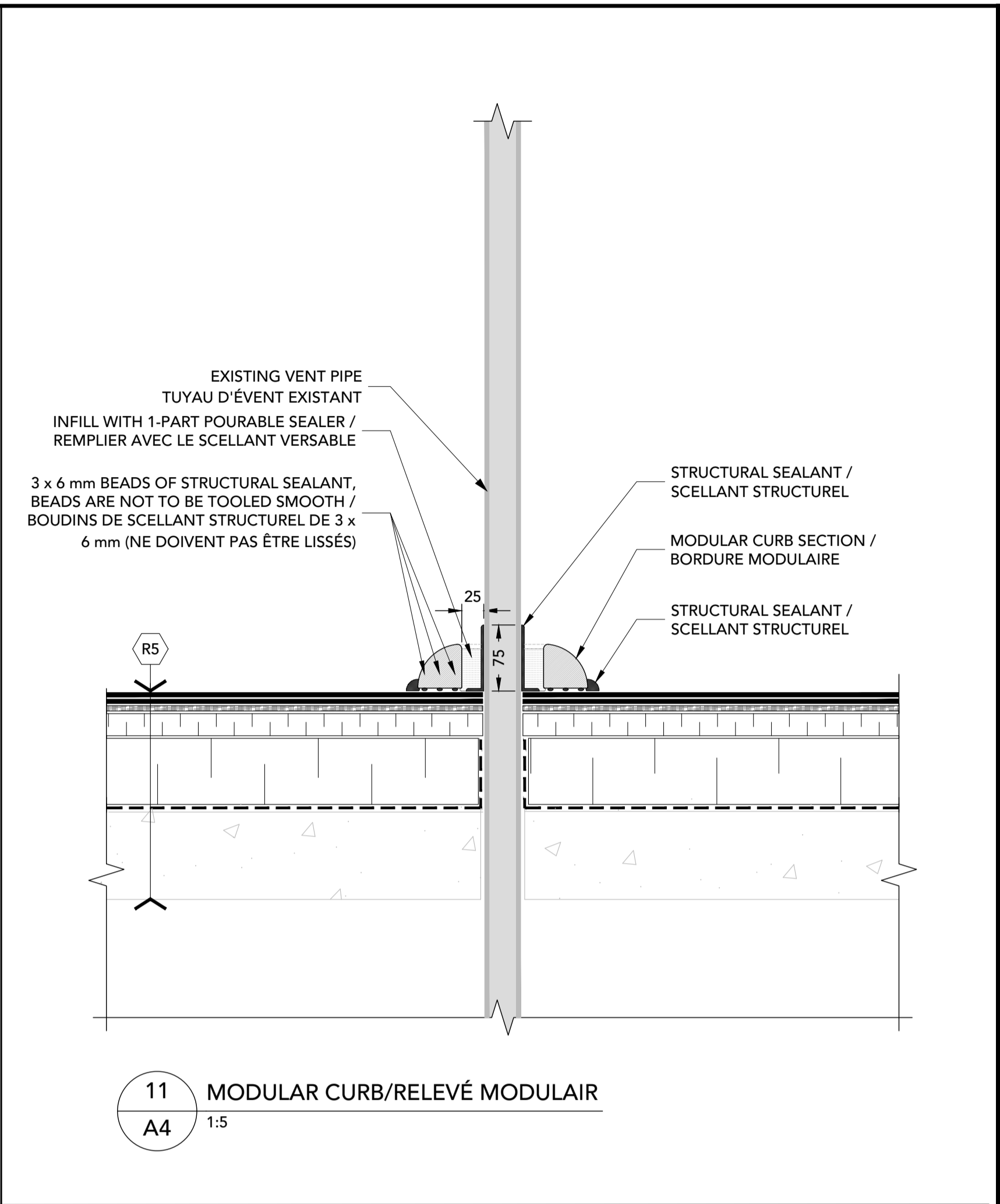
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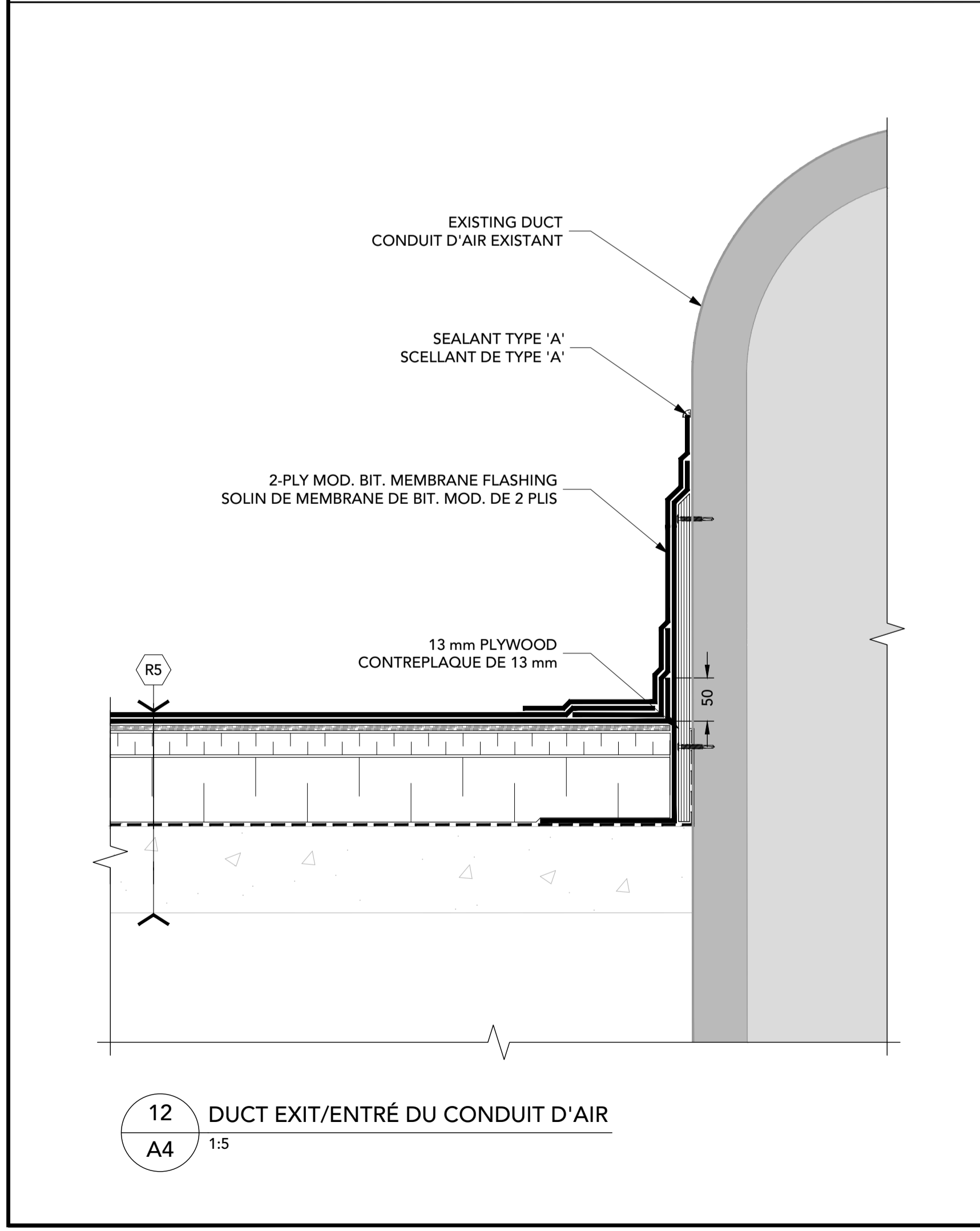
9 BUIL-IN SLEEPER
A4 1:5



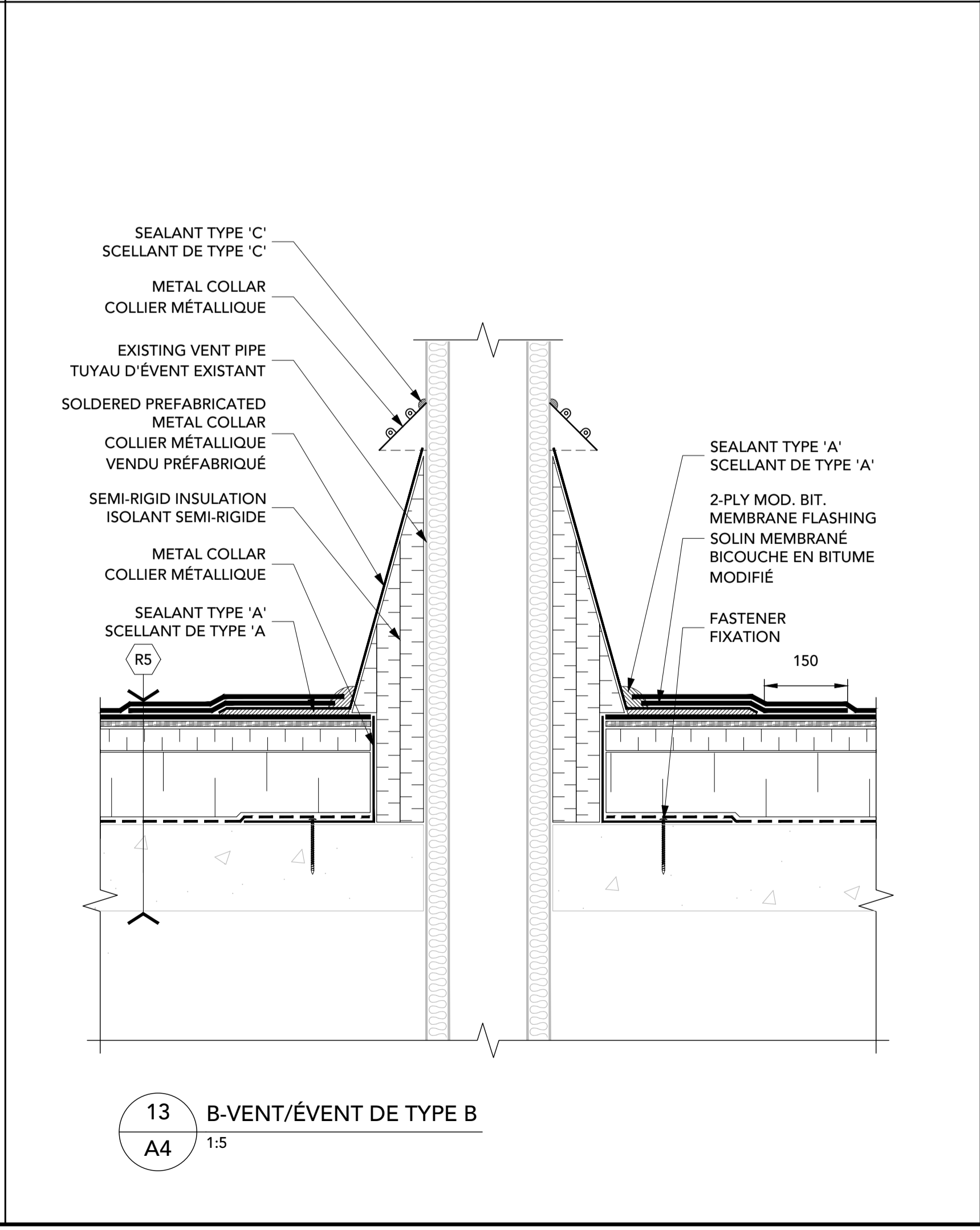
10 ROOFTOP UNIT/UNITÉ MÉCANIQUE
A4 1:5



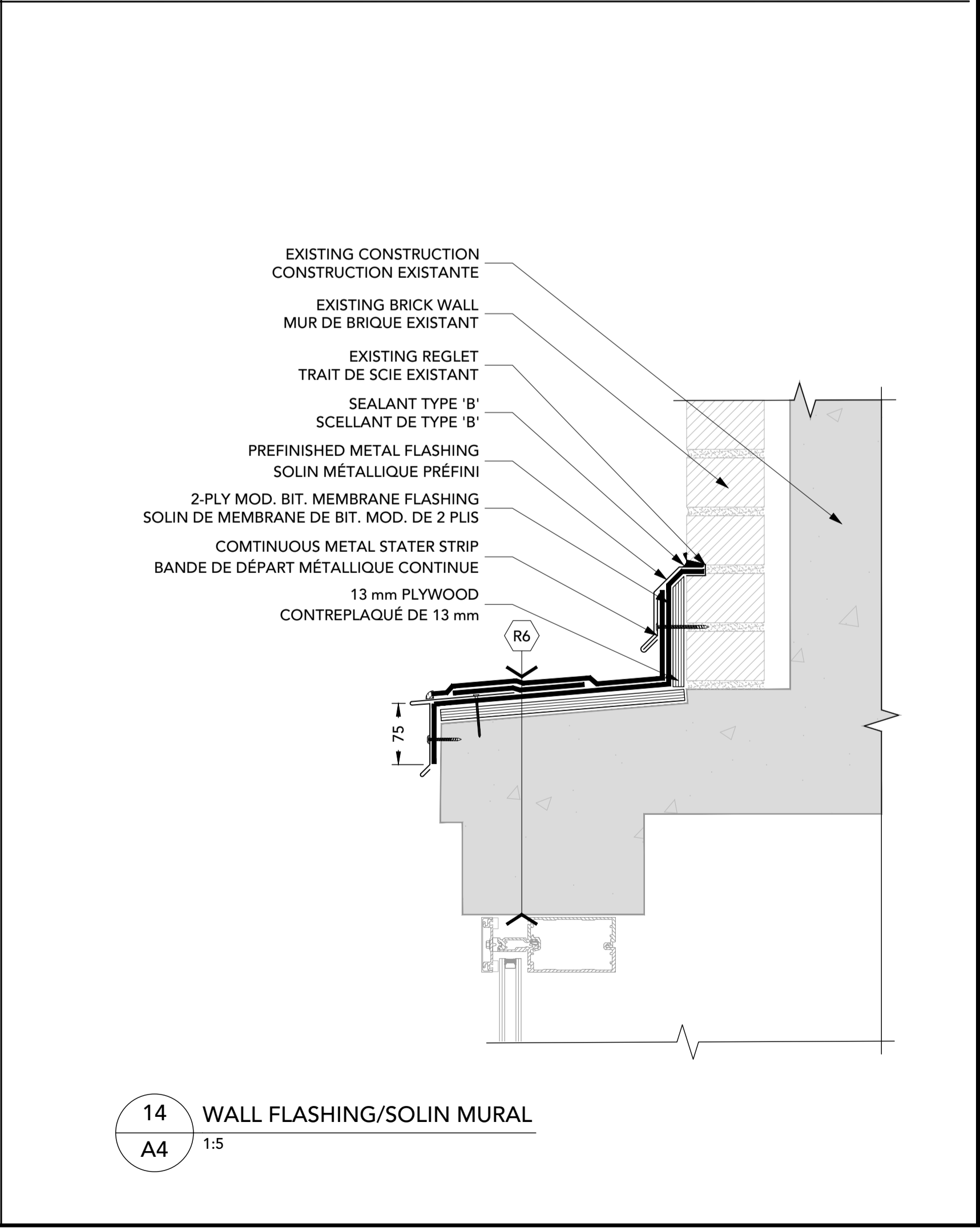
11 MODULAR CURB/RELEVÉ MODULAIRE
A4 1:5



12 DUCT EXIT/ENTRÉ DU CONDUIT D'AIR
A4 1:5



13 B-VENT/ÉVENT DE TYPE B
A4 1:5



14 WALL FLASHING/SOLIN MURAL
A4 1:5

Fishburn Sheridan & Associates Ltd.
300 - 150 Katimavik Road, Ottawa, Ontario, K2L 2N2
T: 613-831-7293 | F: 613-831-3812 | www.fseng.com

03	FOR TENDER/POUR APPEL D'OFFRE	2021-09-15
02	FOR 99% REVIEW/POUR RÉVISION DE 99%	2020-08-28
01	FOR 66% REVIEW/POUR RÉVISION DE 66%	2020-08-21
revision		date

Do not scale drawings. Verify all dimensions and conditions on site and immediately notify the engineer of all discrepancies.

A	Detail No. No. du détail
B	drawing no. - where detail required dessin no. - où détail exigé
C	drawing no. - where detailed dessin no. - où détaillé

project title
titre du projet
**RÉFECTION DE TOITURE
ROOF REPLACEMENT, CEF
BUILDINGS 12, 18 & 74
BÂTIMENTS 12, 18 ET 74**

drawing title
titre du dessin
**DETAILS
DÉTAILS**

drawn by
dessiné par
ROEL PARKER

designed by
conç par
MICHEL PAULIN

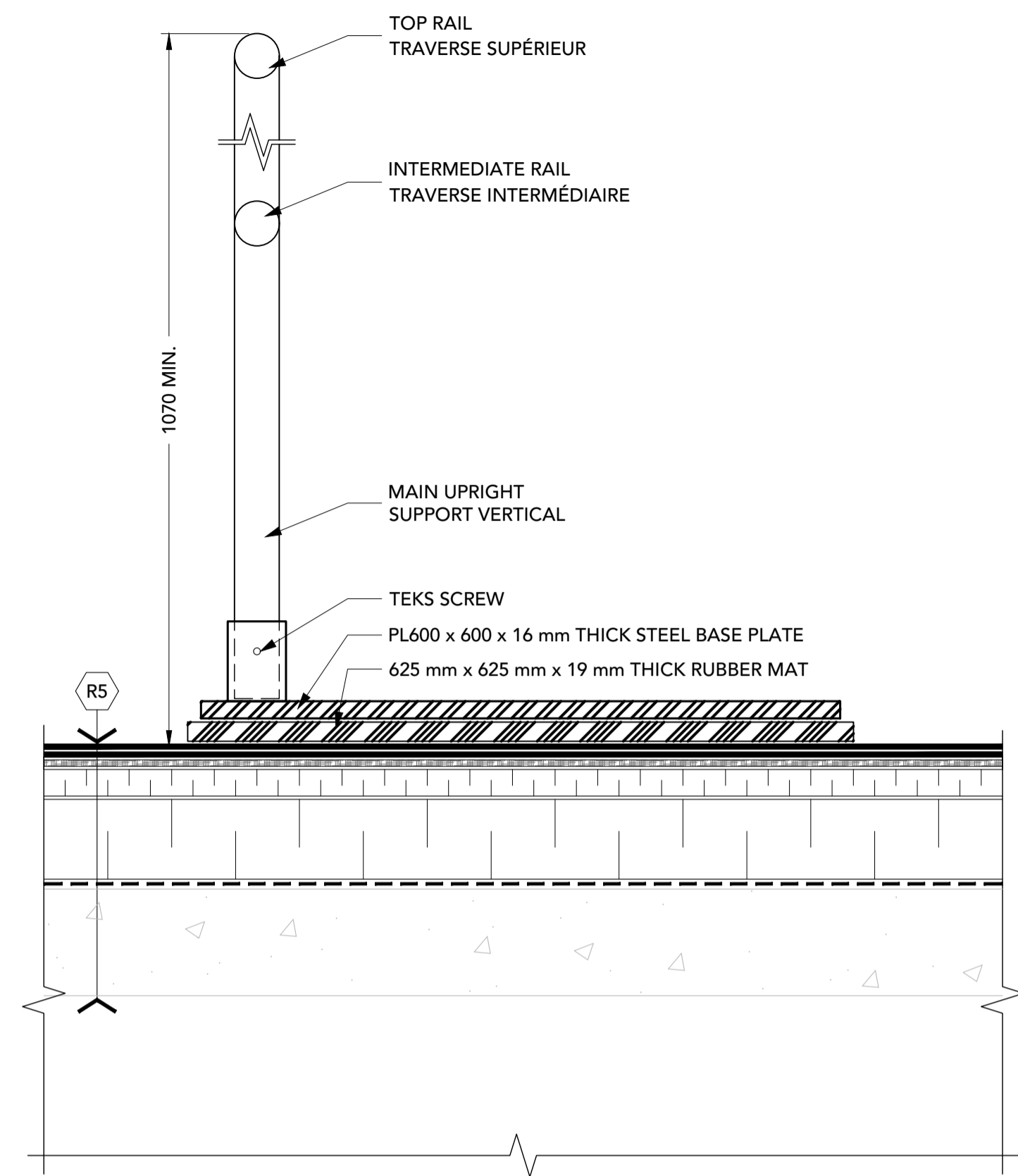
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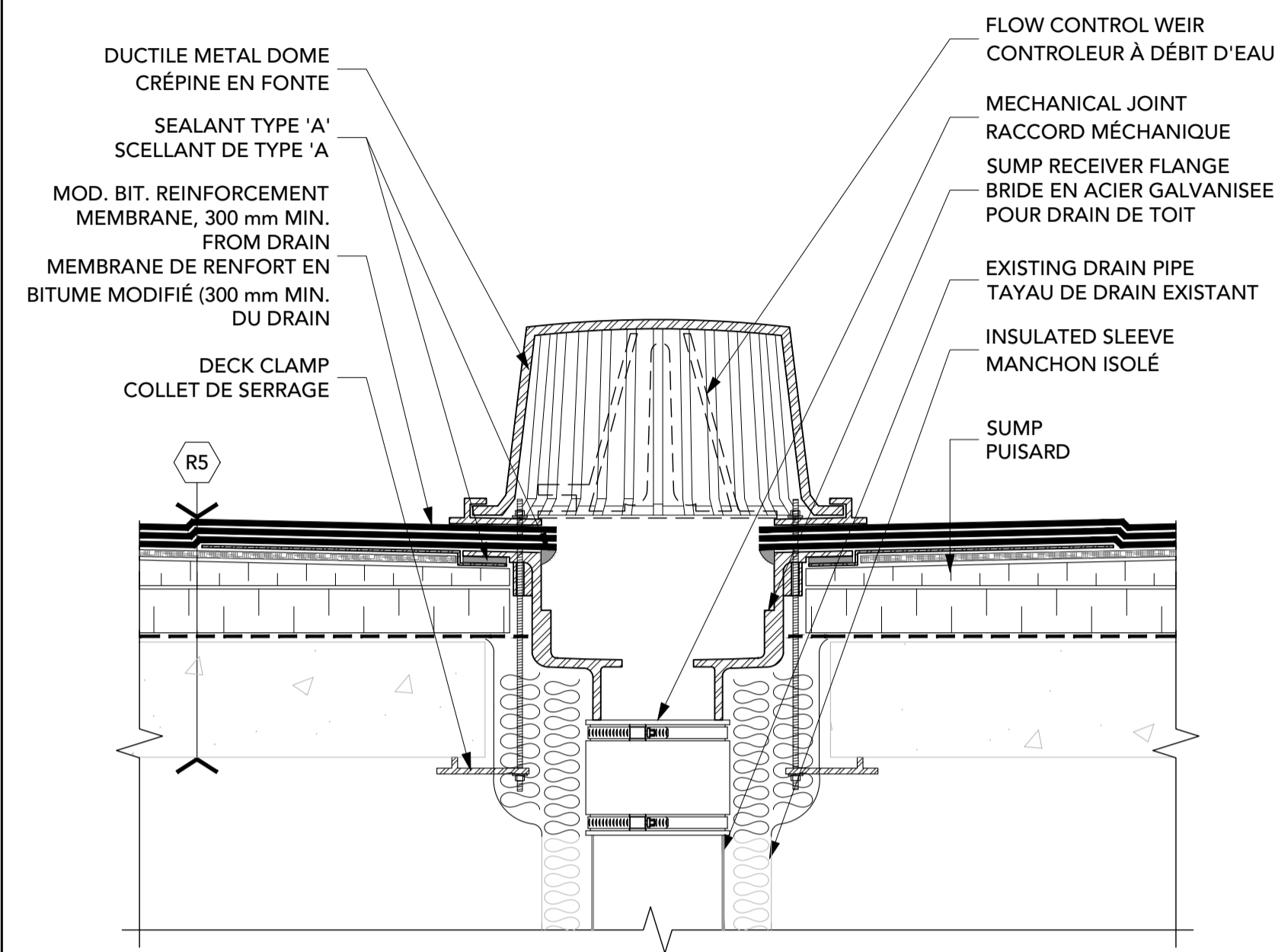
project date
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2020-08-28

project no.
no. du projet
CEF20 0008

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A4

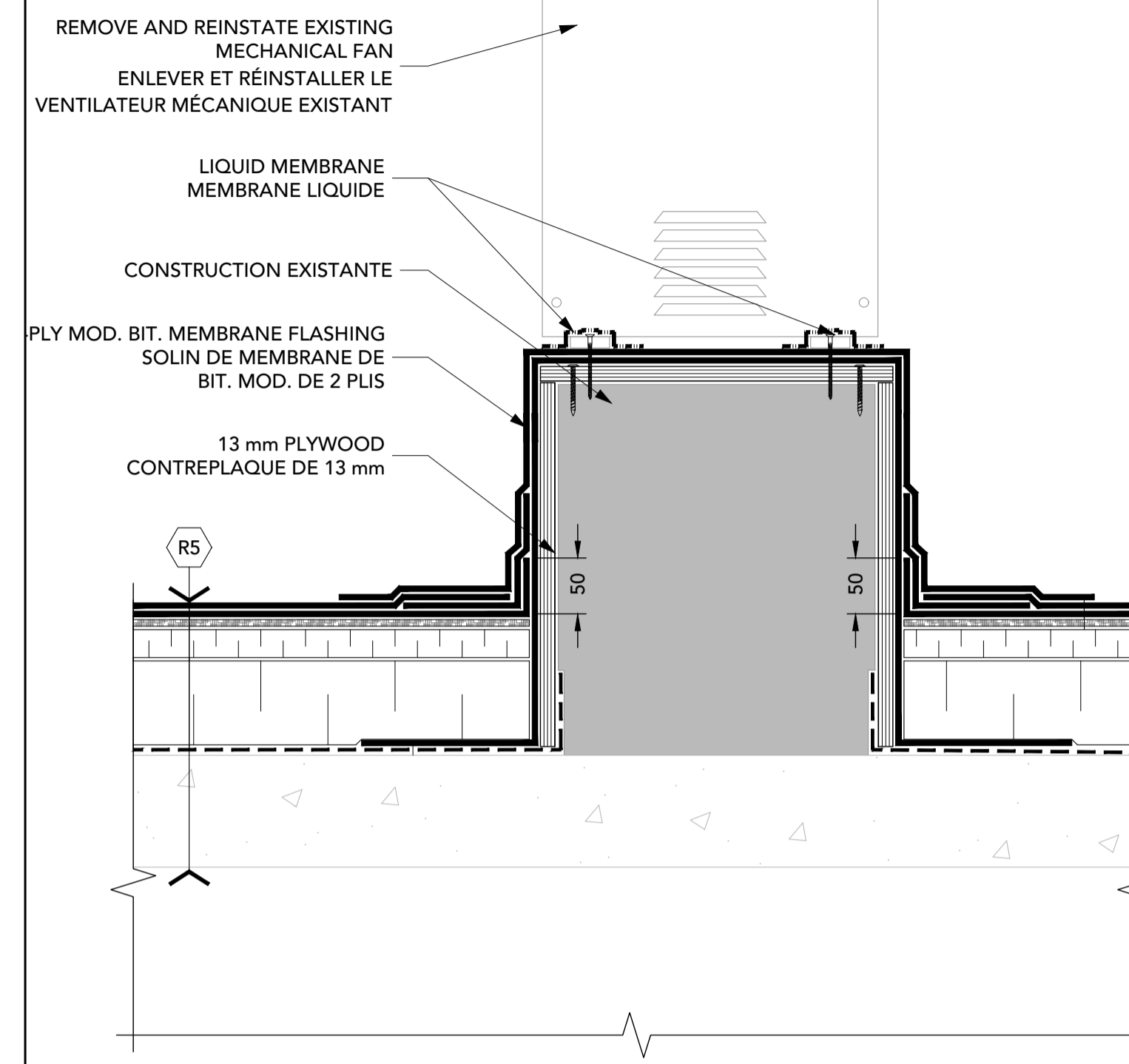


15 BALLASTED GUARDRAIL / GARDE-CORPS
A5 1:5

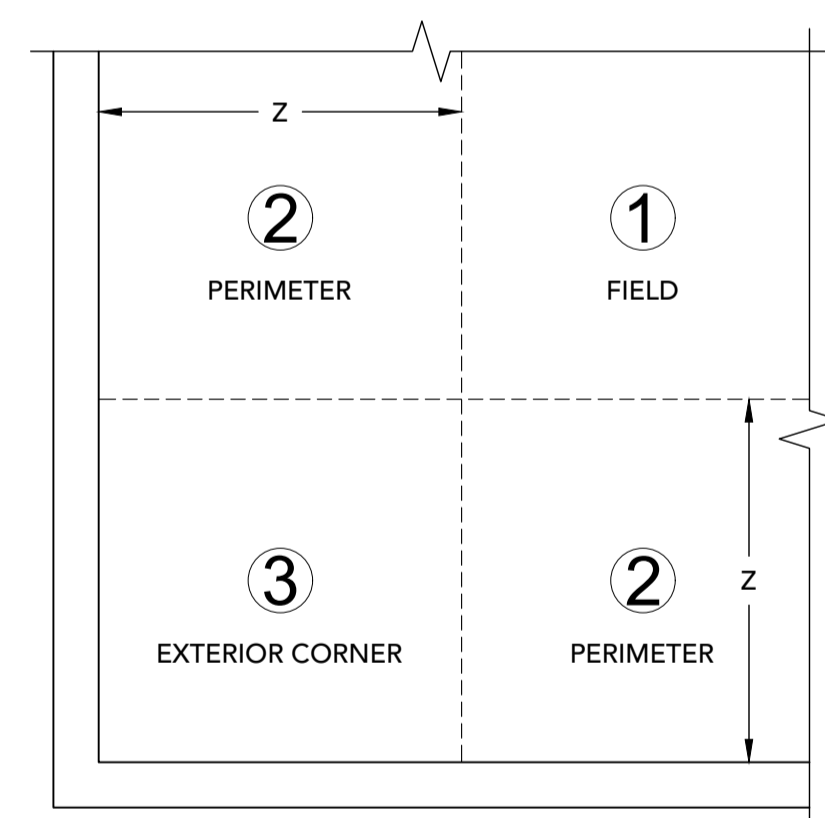


16 ROOF DRAIN / DRAIN DE TOIT
A5 1:5

NOTE:
REMOVE AND DISPOSE OF ALL CANT STRIPS.
ENLEVER ET DISPOSER DE TOUS LES BORDURES BISEAUTÉES.



17 MECHANICAL FAN / VENTILATEUR MÉCANIQUE
A5 1:5



ROOF ZONES
N.T.S.

WIND LOAD FACTORS	ROOF AREAS	
	18-202	18-301
L	17.7 m	9.1 m
W	14 m	5.1 m
h	8.0 m	10.5 m
z	1.2 m	1.0 m
C _e	0.7	0.7
C _p C _g (P1)	-1.8	-1.8
C _p C _g (P2)	-2.5	-2.5
C _p C _g (P3)	-5.4	-5.4
C _p C _g	-0.9	-0.9
I _w	1.00	1.00
q	0.41 kPa	0.41 kPa
P ₁	-1.3 kPa	-1.4 kPa
P ₂	-1.7 kPa	-1.8 kPa
P ₃	-3.3 kPa	-3.5 kPa

18 OBC - WIND LOAD DATA
A5 N.T.S.

RESERVED
RÉSERVÉ

RESERVED
RÉSERVÉ

revision	description	date
03	FOR TENDER / POUR APPEL D'OFFRE	2021-09-15
02	FOR 99% REVIEW / POUR RÉVISION DE 99%	2020-08-28
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approved by / approuvé par
MICHAEL BARRINGTON

tender submission / FOR 99% REVIEW / POUR RÉVISION DE 99%
project manager / administrateur de projets

project date / date du projet
2020-08-28

project no. / no. du projet
CEF20 0008

drawing no. / dessin no.
A5

Part 1 General

1.1 SUMMARY

- .1 Contractor to comply with requirements of this Section when performing the following work:
 - .1 Removal of approximately 550 square feet of asbestos containing cement board panels from the mechanical room ceiling.

1.2 RELATED SECTIONS

- .1 EHS Partnerships Ltd. Report 04-0004-20-003 – Asbestos, PCBs & Coal Tar Pitch – Sampling and Analysis – Building 18 – Roof Replacement – July 2020.

1.3 SECTION INCLUDES

- .1 Requirements and procedures for asbestos abatement of non-friable asbestos-containing materials of the type described within.

1.4 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA Standard Z94.4-02, Selection, Use and Care of Respirators.
- .2 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .4 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .5 Underwriters' Laboratories of Canada (ULC)
- .6 Public Services and Procurement Canada Asbestos Management Standard
- .7 Part II – Canada Labour Code (OH&S)
- .8 Occupational Health and Safety Act (OHSA)
 - .1 Ontario Regulation 278/05 Designated Substances – Asbestos on Construction Projects and in Buildings and Repair Operations.

1.5 DEFINITIONS

- .1 HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.
- .2 Amended Water: water with nonionic surfactant wetting agent added to reduce water tension to allow thorough wetting of fibres.

- .3 Asbestos-Containing Materials (ACMs): materials that contain 0.5 per cent or more asbestos by dry weight and are identified under Existing Conditions including fallen materials and settled dust.
- .4 Asbestos Work Area: area where work takes place which will, or may, disturb ACMs.
- .5 Authorized Visitors: Consultant or designated representative, and of regulatory agencies.
- .6 Competent worker: in relation to specific work, means a worker who:
 - .1 Is qualified because of knowledge, training and experience to perform the work.
 - .2 Is familiar with the provincial laws and with the provisions of the regulations that apply to the work.
 - .3 Has knowledge of all potential or actual danger to health or safety in the work.
- .7 Friable material: means material that:
 - .1 When dry, can be crumbled, pulverized or powdered by hand pressure, or is crumbled, pulverized or powdered.
- .8 Non-Friable Material: material that when dry cannot be crumbled, pulverized or powdered by hand pressure.
- .9 Occupied Area: any area of the building or work site that is outside Asbestos Work Area.
- .10 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide protection and isolation.
- .11 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must have appropriate capacity for work.

1.6 SUBMITTALS

- .1 Submit proof satisfactory to Consultant and Departmental Representative that suitable arrangements have been made to dispose of asbestos-containing waste in accordance with requirements of authority having jurisdiction.
- .2 Submit proof of Contractor's Asbestos Liability Insurance.
- .3 Submit to Consultant and Departmental Representative necessary permits for transportation and disposal of asbestos-containing waste and proof that asbestos-containing waste has been received and properly disposed.
- .4 Submit proof that all asbestos workers and/or supervisor have received appropriate training and education by a competent person in the hazards of asbestos exposure, good personal hygiene and work practices while working in Asbestos Work Areas, and the use, cleaning and disposal of respirators and protective clothing.

- .5 Submit proof satisfactory to Consultant and Departmental Representative that employees have respirator fitting and testing. Workers must be fit tested with a personally issued respirator.

1.7 QUALITY ASSURANCE

- .1 Regulatory Requirements: comply with Federal, Provincial and local requirements pertaining to asbestos, provided that in case of conflict among these requirements or with these specifications, more stringent requirement applies. Comply with regulations in effect at time Work is performed.
- .2 Health and Safety:
 - .1 Safety Requirements: worker protection.
 - .1 Protective equipment and clothing to be worn by workers while in Asbestos Work Area include:
 - .1 Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to Provincial Authority having jurisdiction. The respirator to be fitted so that there is an effective seal between the respirator and the worker's face, unless the respirator is equipped with a hood or helmet. The respirator to be cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker. The respirator to have damaged or deteriorated parts replaced prior to being used by a worker; and, when not in use, to be stored in a convenient, clean and sanitary location. The employer to establish written procedures regarding the selection, use and care of respirators, and a copy of the procedures to be provided to and reviewed with each worker who is required to wear a respirator. A worker not to be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.
 - .2 Disposable-type protective clothing that does not readily retain or permit penetration of asbestos fibres. Protective clothing to be provided by the employer and worn by every worker who enters the work area, and the protective clothing shall consist of a head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing to include suitable footwear, and to be repaired or replaced if torn.
 - .2 Eating, drinking, chewing, and smoking are not permitted in Asbestos Work Area.
 - .3 Before leaving Asbestos Work Area, the worker can decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing, or, if the protective clothing will not be reused, place it in a container for dust and waste. The container to be dust tight, suitable for asbestos waste, impervious

to asbestos, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before removal from the work area, and removed from the work area frequently and at regular intervals.

- .4 Facilities for washing hands and face shall be provided within or close to the Asbestos Work Area.
- .5 Ensure workers wash hands and face when leaving Asbestos Work Area.
- .6 Ensure that no person required to enter an Asbestos Work Area has facial hair that affects seal between respirator and face.

1.8 WASTE MANAGEMENT AND DISPOSAL

- .1 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .2 Disposal of asbestos waste generated by removal activities must comply with Federal, Provincial, Territorial and Municipal regulations. Dispose of asbestos waste in sealed double bagged thickness 0.15mm bags or leak proof drums. Label containers with appropriate warning labels.
- .3 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

1.9 EXISTING CONDITIONS

- .1 Notify Consultant and Departmental Representative of friable material discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material pending instructions from Departmental Representative.

1.10 SCHEDULING

- .1 Hours of Work:
 - .1 Abatement work can be conducted during normal working hours.

1.11 OWNER'S INSTRUCTIONS

- .1 Before beginning Work, provide Consultant and Departmental Representative satisfactory proof that every worker has had instruction and training in hazards of asbestos exposure, in personal hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.
- .2 Instruction and training related to respirators includes, following minimum requirements:
 - .1 Fitting of equipment.
 - .2 Inspection and maintenance of equipment.
 - .3 Disinfecting of equipment.
 - .4 Limitations of equipment.
- .3 Instruction and training must be provided by a competent, qualified person.

Part 2 Products

2.1 MATERIALS

- .1 Drop Sheets:
 - .1 Polyethylene: 0.15 mm thick.
 - .2 FR polyethylene: 0.15 mm thick woven fibre reinforced fabric bonded both sides with polyethylene.
- .2 Wetting Agent: 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with water in a concentration to provide thorough wetting of asbestos-containing material.
- .3 Waste Containers: contain waste in two separate containers.
 - .1 Inner container: 0.15 mm thick sealable polyethylene waste bag.
 - .2 Outer container: sealable metal or fibre type where there are sharp objects included in waste material; otherwise outer container may be sealable metal or fibre type or second 0.15 mm thick sealable polyethylene bag.
- .4 Labelling requirements: affix pre-printed cautionary asbestos warning in both official languages that is visible when ready for removal to disposal site.
- .5 Slow - drying sealer: non-staining, clear, water - dispersible type that remains tacky on surface for at least 8 hours and designed for purpose of trapping residual asbestos fibres.
- .6 Tape: fibreglass - reinforced duct tape suitable for sealing polyethylene under both dry conditions and wet conditions using amended water.

Part 3 Execution

3.1 PROCEDURES

- .1 Before beginning Work, isolate Asbestos Work Area using, minimum, preprinted cautionary asbestos warning signs in both official languages that are visible at access routes to Asbestos Work Area.
 - .1 Remove visible dust from surfaces in the work area where dust is likely to be disturbed during course of work.
 - .2 Use HEPA vacuum or damp cloths where damp cleaning does not create a hazard and is otherwise appropriate.
 - .3 Do not use compressed air to clean up or remove dust from any surface.
- .2 Prevent spread of dust from Asbestos Work Area using measures appropriate to work to be done.
 - .1 Use FR polyethylene drop sheets over flooring such as carpeting that absorbs dust and over flooring in Asbestos Work Area where dust and contamination cannot otherwise be safely contained. Drop sheets are not to be reused.
- .3 Wet materials containing asbestos to be cut, ground, abraded, scraped, drilled, or otherwise disturbed unless wetting creates hazard or causes damage.
 - .1 Use garden reservoir type low - velocity fine - mist sprayer.
 - .2 Perform Work to reduce dust creation to lowest levels practicable.

- .3 Work will be subject to visual inspection and air monitoring.
- .4 Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas.

- .4 Frequently and at regular intervals during Work and immediately on completion of work:
 - .1 Dust and waste to be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in a waste container, and
 - .2 Drop sheets to be wetted and placed in a waste container as soon as practicable.

- .5 Cleanup:
 - .1 Place dust and asbestos containing waste in sealed dust-tight waste bags. Treat drop sheets and disposable protective clothing as asbestos waste; wet and fold these items to contain dust, and then place in plastic bags.
 - .2 Clean exterior of each waste-filled bag using damp cloths or HEPA vacuum and place in second clean waste bag immediately prior to removal from Asbestos Work Area.
 - .3 Seal waste bags and remove from site. Dispose of in accordance with requirements of Provincial/Territorial and Federal Authority having jurisdiction. Supervise dumping and ensure that dump operator is fully aware of hazardous nature of material to be dumped and that the appropriate guidelines and regulations for asbestos disposal are followed.
 - .4 Perform final thorough clean-up of Work areas and adjacent areas affected by Work using HEPA vacuum.

END OF SECTION